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wolbachia p
homo sapien
latrodectus
                                       treponema p
anopheles g
anopheles g
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A McBride J.W., Comer J.E., Walker D.H.;

T. Novel Immunoreactive Glycoprotein Orthologs of Ehrlichia spp.";

L. Ann. N. Y. Acad. Sci. 0:0-0(2003).

R. EMBL, AF252298; AAX(01145.2; -...)

R. EMBL, PRO02110; ANX.

R. InterPro, IPR002110; ANX.

R. PINTS; PRO1415; ANX.RIN.

R. PRINTS; PR00248; ANX. 21.

R. MART; SM00248; ANX. REPEAT; 8.

R. PROSITE; PS50088; ANX. REPEAT; 8.

R. PROSITE; PS50098; ANX. REPEAT; 8.

R. PROSITE; PS50297; ANX. REPERGION; 1.
                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. MEDLINE=20579019 MEDLINE=20579049; PubMed=11136790; MEDLINE=20579049; PubMed=11136790; MCBride J.W., Corstvet R.E., Breitschwerdt E.B., Walker D.H.; "Immunodiagnosis of Ehrlichia canis infection with recombinant"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1421;
                                                                                                                                                                                                                                                                    Ehrlichia canie.
Bacteria; Proteobacteria; Alphaproteobacteria; Rickettsiales;
Anaplasmataceae; Ehrlichia.
NCBI_TaxID=944;
          073101
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P23631
083807
070fe28
070fkd3
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01-JUN-2001 (TrEMBLrel. 17, Created)
01-MAR-2004 (TrEMBLrel. 26, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
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100.0%; Pred. No. 1.1e-228;
tive 0; Mismatches 0;
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                  Q9UFA4
Q9UFA4
Q1ATA LATWA
Q1PEZ8
Q7QXD3
Q2V4B1
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Q8EZ25
Q61304
Q8IZ72
Q9IZ72
Q9UCP8
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Best Local Similarity
Matches 831; Conserva
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                                                                 February 26, 2005, 18:36:46; Search time 176 Seconds
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        GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
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Listing first 45 summaries
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                             :||:|| | ||:|| | ||:|| 219 EVEEDEPPQTKSSPERRSHPVCRKAATHQDKPSLLRAIFNVD------
                                                                    GVPQEAQYDAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKE-
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                                                      PINAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLFSERGYNAMQVAALFG
              AKNVMTLMHLIVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHAAKNCTGD
                                                                                                                                  HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
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01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein.
Fryau rubripes (Japanese pufferfish) (Takifugu rubripes).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes; Tetradontoidea; Tetraodontidae; Takifugu.
NCFL TaxID=31033;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1179;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS50088; ANK REPEAT; 16.
ROSITE; PS50297; ANK REP REGION; 1.
ANK repeat; Hypothetical protein.
SEQUENCE 1179 AA; 127675 WW; ABFF2F2B2CC14EF2
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10.3%; Score 442; DB 2; L.
Best Local Similarity 22.5%; Pred. No. 1.2e-15;
Matches 211; Conservative 102; Mismatches 310;
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Submitted (JUL-2002) to the
EMBL; AF527754; AAO15006.1;
HSSP; P55271; 1D9S.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00248; ANK; 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                     MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                                                                                273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         359 LLINTLITS-----GADTAKRGI-----HGMFPLHLAALSGFSD----CCRKLLSSGFDID 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TPDDFGRTCLHAAAAGGNL----ECLNLLLATGADF---NKKDKFGRSPLHYAAANCN 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----KNTVLHYAISKG 730
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    AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----EEAVQVLL 100
                                                                                                                                                                                                                                                                                      191 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP 241
                                                                                                                                                                                                                                                                                                                                   DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451
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                                                                                                                                                                                                                                                                                                                                                                DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP
                                                                                                                                                                                                                                                                                                                                                                                                                                452 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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Last annotation update)
                                                                                1719 AA
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MEDLINE=90158830; PubMed=2137557;
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                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                 Nagase T., Ishikawa K.-I., Nakajima D., Ohira M., Seki N., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.; "Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins in vitro."; DNA Res. 4:141-150(1997).
                                                                    Eukaryota, 'Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9.8%; Score 421, DB 1; Length 1059; 25.2%; Pred. No. 1.5e-14;
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Ankyrin repeat domain protein 28 (Fragment)
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19.
                                                                                                                                                                                                        MEDLINE=97349984; PubMed=9205841;
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Yomo sapiens (Human).
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1059 AA;
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Best Local Similarity
Matches 189; Conserv
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Conservative 101;

Nature 344:36-42(1990). EMBL; X16609; CAA34611.1;

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--EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF Mismatches 269; Indels 190; Gaps

control proteins.";

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GO; GO:0016323; C:basolateral plasma membrane; ISS. GO; GO:0008093; F:cytoskeletal adaptor activity; ISS. GO; GO:0019899; F:enzyme binding; ISS. GO; GO:0030507; F:spectrin binding; ISS.
                                                                                                                                                                                                                  PRT; 1856 AA
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J. Biol. Chem. 272:19220-19228 (1997
EMBL, U50092; AAB47805.1; JOINED.
EMBL, U50093; AAB47805.1; JOINED.
EMBL, U50095; AAB47805.1; JOINED.
EMBL, U50096; AAB47805.1; JOINED.
EMBL, U50099; AAB47805.1; JOINED.
EMBL, U50099; AAB47805.1; JOINED.
EMBL, U50099; AAB47805.1; JOINED.
EMBL, U50100; AAB47805.1; JOINED.
EMBL, U50101; AAB47805.1; JOINED.
EMBL, U50102; AAB47805.1; JOINED.
EMBL, U50103; AAB47805.1; JOINED.
EMBL, U50104; AAB47805.1; JOINED.
EMBL, U50104; AAB47805.1; JOINED.
EMBL, U50104; AAB47805.1; JOINED.
EMBL, U50105; AAB47805.1; JOINED.
EMBL, U50106; AAB47805.1; JOINED.
EMBL, U50109; AAB47805.1; JOINED.
EMBL, U50109; AAB47805.1; JOINED.
EMBL, U50112; AAB47805.1; JOINED.
EMBL, U50113; AAB47805.1; JOINED.
EMBL, U50113; AAB47805.1; JOINED.
EMBL, U50113; AAB47805.1; JOINED.
EMBL, U50114; AAB47805.1; JOINED.
EMBL, U50115; AAB47805.1; JOINED.
EMBL, U50116; AAB47805.1; JOINED.
EMBL, U50116; AAB47805.1; JOINED.
EMBL, U50117; AAB47805.1; JOINED.
EMBL, U50118; AAB47805.1; JOINED.
EMBL, U50119; AAB47805.1; JOINED.
EMBL, U50112; AAB47805.1; JOINED.
EMBL, U50112; AAB47805.1; JOINED.
EMBL, U50112; AAB47805.1; JOINED.
EMBL, U50112; AAB47805.1; JOINED.
EMBL, U5012; AAB47805.1; JOINED.
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EMBL; US0127; AAB47805.1; JOINED.
EMBL; US0129; AAB47805.1; JOINED.
EMBL; US0129; AAB47805.1; JOINED.
EMBL; US0130; AAB47805.1; JOINED.
EMBL; US0131; AAB47805.1; JOINED.
EMBL; US0132; AAB47805.1; JOINED.
HSSP; P16157; 1N11.
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(TrEMBLrel. 03, I
(TrEMBLrel. 26, I
                                                                                                                                                                                                                  PRELIMINARY;
                            821 GDHNILFDQ 829
                                                                              800 DICHRMSFPE 808
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01-MAY-1997
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                   GO:0016323; C:basolateral plasma membrane; ISS.
GO:0005856; C:cytoskeleton; NAS.
GO:0008093; P:cytoskeletal adaptor activity; ISS.
GO:0019899; P:enzyme binding; ISS.
GO:0019899; P:spectrin binding; ISS.
GO:005050; P:spectrin binding; ISS.
GO:0005087; P:exccytosis, NAS.
GO:0006887; P:exccytosis, NAS.
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PROSITE; PS50297; ANK REP REGION; 1.
PROSITE; PS50017; DEATH DOMAIN; 1.
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InterPro; IPR00110; ANK.
InterPro; IPR000488; Death.
InterPro; IPR000906; ZUS.
Pfam; PP00023; Ank; 23.
Pfam; PP00023; Ank; 23.
Pfam; PP00791; ZUS; 1.
Pfam; PP000248; ANKXIN.
SMART; SM00248; ANKXIN.
SMART; SM000248; ANK; 23.
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MEDINE=97382244; PubMed=9235914; DOI=10.1074/jbc.272.31.19220; Gallagher P.G., Tse W.T., Scarpa A.L., Lux S.E., Forget B.G.; "Structure and organization of the human ankyrin-1 gene. Basis for
                                                                                                                                                                                                                     ..... osp.ram. vamenau.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
Last sequence update)
Last annotation update)
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31;
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GO:0005200; F:structural constituent of cytoskeleton; ISS. GO:0045199; P:maintenance of epithelial cell polarity; ISS.
                                                                                                                                                                                                                                                     1856 AA; 203465 MW; 4A4E3A794DD6401F CRC64;
                                                                                                                                                                                                          REGION; 1.
                           InterPro; IPR002110; ANK.
InterPro; IPR00488; Death.
InterPro; IPR0011029; DEATH like.
InterPro; IPR000906; ZUS.
Pfam; PF00023; Ank; 22.
Pfam; PF00531; Death; 1.
Pfam; PF00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
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                                                                                                                                               SMART; SM00248; ANK; 22.
SMART; SM00005; DEATH; 1.
SMART; SM00218; ZU5; 1.
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MEDLINE=96225450; PubMed=8640229;

MEDLINE=96225450; PubMed=8640229;

MEDLINE=96225450; PubMed=8640229;

MEDLINE=96225450; PubMed=8640229;

A Gallagher P.G., Schroeter W., Porget B.G., Lux S.E.;

Tankyrin-1 mutations are a major cause of dominant and recessive hereditary spherocytosis.";

That. Genet. 13:214-218(1996).

-!- FUNCTION: Attach integral membrane proteins to cytoskeletal elements; bind to the erythrocyte membrane protein band 4.2, to Na-K ATPase, to the erythrocyte membrane protein desmin.

Cytoskeletal proteins fodrin, tubulin, vimentin and desmin.

Erythrocyte ankyrins also link spectrin (beta chain) to the cytoplasmic domain of the erythrocytes anion exchange protein; they retain most or all of these binding functions.
                                                                                                                                                                                                                                                                                  Lux S.E., John K.M., Bennett V.; "Analysis of cDNA for human erythrocyte ankyrin indicates a repeated structure with homology to tissue-differentiation and cell-cycle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          spherocytosis
                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=90175370; PubMed=1689849;
Lambert S., Yu H., Prchal J.T., Lawler J., Ruff P., Speicher
Cheung M.C., Kan Y.W., Palek J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VSP_000265;
                                                                                                                                                                                                                                SEQUENCE FROM N.A., PARTIAL SEQUENCE, AND VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Event=Alternative splicing; Named isoforms=3;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "cDNA sequence for human erythrocyte ankyrin.";
Proc. Natl. Acad. Sci. U.S.A. 87:1730-1734(1990)
                                                      01-APR-1990 (Rel. 14, Last sequence update)
25-0CT-2004 (Rel. 45, Last annotation update)
Ankyrin 1 (Erythrocyte ankyrin) (Ankyrin R).
Name-ANK1; Synonyms-ANK;
1880 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=2; Synonyms=2.2;
IsoId=P16157-2; Sequence=VSP_000264,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isold=P16157-3; Sequence=VSP 000266; PTM: Regulated by phosphorylation. PTM: Palmitoylated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=1; Synonyms=2.1;
IsoId=P16157-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: Contains 23 ANK repeats. SIMILARITY: Contains 1 death domain.
PRT;
                                                                                                                                                                                                                                              TISSUB-Hematopoietic;
MEDLINE=90158830; PubMed=2137557;
                                    (Rel. 14, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X16609; CAA34610.1; -. EMBL; M28880; AAA51732.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALTERNATIVE PRODUCTS:
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                  Nature 344:36-42(1990).
                                                                                                                                    (Human)
                                                                                                                                                                                                                                                                                                                                                  control proteins.";
                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                        NCBI_TaxID=9606;
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                                                                                                                                    Homo sapiens
                                    01-APR-1990
HUMAN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDABIDDI----TLD---HLTPLHVAAHCG 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                405 TPLHVASFMGHLPIVXNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3-8 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
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                                                                                                                                                                                                                                                                                                                                                                                                Score 390.5; DB 1; Length 1880;
                                                                                                                                                                                                                                                                                                                                    MW; 1C5F5E7EFD1CD428 CRC64;
                                                                                                                 /Frid=vAR 000600.
D -> N (in Duesseldorf).
Frid=vAR 000602.
R -> D.
/Frid=vAR_000603.
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Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 26.0%; Pred. No. 1.7e-12;
Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                     A -> S (in Ref. 2)
V -> I (in Ref. 2)
                                  Z -> D.
/FTId=VAR_000601
FTIG=VAR_000599
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62 kDa domain, spectrin binding domain.
55 kDa regulatory domain; regulates the binding of ankyrin to spectrin and the band 3 protein.
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GLQPDLIEGRKGAQIVKRASLKRGKQ (in isoform
                                                                                                                                                                                                                                                                                                       Therepro; IPRO00488; Death.

Therepro; IPRO00488; Death.

Therepro; IPRO1029; DEATH like.

Therepro; IPRO1029; DEATH DEATH; DEATH DEATH DEATH; DEATH DEATH
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H -> D (in isoform 2).
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V -> I (in HS).
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R -> H (in Brueggen).
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   PIR; A35049; A35049.
PIR; S08275; SJHUK.
PDB; 1N11; X-ray; A=390-826.
Genew; HGNC:492; ANKI.
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590 GFNDVVKWLIARGTNVDVRTRDNYTALHVAVQSGKASVVETLLGSGADIHVKGGELGQTA 649
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             769 BOROLHFPGEDAKLVNILLIDYGGMVEMPSLNANETAMFMAARSGNQAVILA---MVNKIG 825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDK 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     941 QTALHFAAKFGQLAVSQTLLA-LGANPNARDDKGQTPLHLAAENDFPDVVKLFLKMRNNN 999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              492 SVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGG 551
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       478 VGRTPLHEVAEVGDQNMLKI--MFKLRADANIHDKEDKTPVHVAAERGDTSMVESLID-- 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGOMOLEX patterns of sequence variation and multiple 5' and 3' ends
are found among transcripts of the erythroid ankyrin gene.";
LG Biol. Chem. 268:9533-9540(1993).
LG Biol. Chem. 268:9533-9540(1993).
REAL, X69063; CAA48801.1; -.
REAL, X69063; CAA48801.1; -.
REAL, X67771; S37771.
REAL, S37771; S37771.
REAL, S37771.
REAL, S37771; S37771.
REAL, S37771.
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                                                                                                                                                                                                                          -FN----MLKASGADLINVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVN-----
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Nus musculus (Mouse).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
                                                                                 --VKNKNADLTL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=C57BL/6J; TISSUE=Neural;
MEDLINE=93252825; PubMed=8486643;
Birkenmeier C.S., White R.A., Peters L.L., Hall E.J., Lux S.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
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                                                                             380 KNSSEFQDLVNDPDYFGNTIAHYA-----
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01-NOV-1996 (TrEMBLrel. 01,
01-MAR-2004 (TrEMBLrel. 26,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GKRTAAPILERKSPTPE-PKVEDDEDLPPTL------PPRTFSGEGYDDVGVSMPT 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 102 VSRGIYQPPIVQDSNLYSSIGG-----VPQEAQYDAAA---RAGGPRKFLYGPYTFSNG 152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     258 HEEMSSE-DLAMADPQTKILYPAK-RDEWANVESEIETIKRSDFSMADNHGFTAFLLAVK 315
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Conservative 160; Mismatches 383; Indels 236; Gaps
                                                                                                         Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-BLISTON NO.;
STRAIN-BLISTON NO.;
Submitted (Au.)
HSSP; Pi6157; IN11
Wormbase; Wageneo0006616; trp-4.
Wormbase; Wageneo0006616; trp-4.
Wormbep; Y71Al2a-4, CE26238.
GO; GO:0006812; F:calcium channel activity; IEA.
GO; GO:0006812; F:calcium channel activity; IEA.
GO; GO:0006812; P:calcium channel activity
INTERPRO; IPR002110; ANK.
InterPro; IPR002110; ANK.
InterPro; IPR002111; Cat_channel_TrpL.
InterPro; IPR002113; Trans_receptor.
PFAB.
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                                                                                                                                                                                                                                                                                                                                                                                                             'Genome sequence of the nematode C.elegans: A platform for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; P550089; ANK REPEAT; 20.
PROSITE; P550297; ANK REP REGION; 1.
ANK repeat; Hypothetical protein.
SEQUENCE 1913 AA; 211429 MW; D421B7F253C42A27 CRC64;
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                                                                                                                                                                                                                                                                                                STRAIN=Bristol N2;
MEDLINE=99069613; PubMed=9851916;
Hypothetical protein Y71A12B.4. Name=trp-4; ORFNames=Y71A12B.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRÚ1415; ANKYRIN.
PRINTS; PRÚ1097; TRNSRECEPTRP.
SMART; SMOG248; ANK; 28.
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Science 282:2012-2018(1998)
                                      Name=trp-4; ORFNames=Y7.
Caenorhabditis elegans.
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Matches 217; Conserv
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                                                                                                                                                                                   NCBI_TaxID=6239;
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                                                                                                                                                                                                                                                   338 DI-----EEFT----SRN-----LOFG----LVDGDGKNPLHHA--- 363
                                                                                                                                                                                                                                                               364 ------YEHLPPVILKGVMDHVKNSSEPQDLVNDPD---YFGNTIA 400
                                                                                                                                                                                                                                                                                                                        401 HYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQ 460
                                                                                                                                                                                                                                                                                                                                    DVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G 518
                                                                                                                                                                                                                                                                                                                                                                                                           RVVRKNYEKCHD-----GSPNAK 604
                                                                                                                                                                                                                                                                                                                                                                                                                                               600 ---HSPAWN-GYTPLHIAAKQNQIEVARSLLQY-GGSANAESVQGVTPLHLAAQEGHTEM 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            665 VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL 782
                                                                                                                                                                                                                          320 DHLDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHHRVAKVLLDKGAKPNSRALNGFTPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       156 LOOGHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LONDPNP----D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        605 FLQHIQSANFGFSPARGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMOVAALFGDKEA
                                                                                                                                                                            221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN
                                                                                                                                                                                                                                                                                                                                                                                                 519 SAKPNI------KGEDTVAKSLLMED-----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                          Gaps
                                                                                                                                                         Indels 151;
                                                                                                                                        Length 1848;
                                                                                                                      1848 AA; 202576 MW; 5744BECBF9EBA056 CRC64;
                                                                                                                                       Query Match 8.9%; Score 382.5; DB 2; Best Local Similarity 26.2%; Pred. No. 4.5e-12; Matches 180; Conservative 98; Mismatches 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT; 1862 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   783 DDNGRSVLSSAIVPGRKEKGVLGIVNKL 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSNGTTPLAIA----KRLGYISVTDVL 790
                                                                                PROSITE; PS50088; ANK REPEAT; 20.
PROSITE; PS50297; ANK REP REGION; 1.
PROSITE; PS50017; DEATH DOWAIN; 1.
InterPro; IPR001029; DEATH_like.
InterPro; IPR000906; ZUS.
Pfam; PP00023; Ank; 23.
Pfam; PP00531; Death; 1.
Pfam; PP00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
SMART; SM000248; ANK; 23.
SMART; SM00005; DEATH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ANKI MOUSE STANDARD;
002357;
01-NOV-1995 (Rel. 32, Created)
                                                                                                            ANK repeat
                                                                                                                                                                                                                                                                                                                                                            461
                                                                                                                                                                                                                                                                                                                                                                                                                                    558
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                                                                                                                      SEQUENCE
                                                                                                                                                                                                              281
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    binding domain.
62 kDa domain, spectrin binding domain.
55 kDa regulatory domain; regulates the binding of ankyrin to spectrin and the band 3 protein.
ANK 1.
ANK 2.
ANK 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   regulatory domain.";

Mamm. Genome 3:281-285(1992).

-!-FUNCTION: Attach integral membrane proteins to cytoskeletal elements; bind to the erythrocyte membrane protein Dand 4.2, to Na-K ATPase, to the lymphocyte membrane protein GP85, and to the Erythrocyte antwyrins also link spectrin (beta chain) to the Erythrocyte antwyrins also link spectrin (beta chain) to the cytoplasmic domain of the erythrocytes anton exchange protein; they retain most or all of these binding functions.

-I- SUBCELULAR LOCATION: Cytoplasmic surface of erythrocytic plasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat; Cyroskeleton; Lipoprotein; Phosphorylation; Repeat.
                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                        TISSUE=Erythrocyte;

BUBLINE=29145717; PubMed=1386265;

White R.A. Birkenmeler C.S., Peters L.L., Barker J.E., Lux S.E.;

"Murine erythrocyte ankyrin cDNA: highly conserved regions of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cytoskeleton; ISS. cell polarity; ISS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -1- PTM: Regulated by phosphorylation (By similarity).
-1- PTM: Acylated by palmitic acid group(s) (By similarity).
-1- SIMILARITY: Contains 23 ANK repeats.
-1- SIMILARITY: Contains 1 death domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MGD; MGI:88024; Ankl.
GO:0016323; C:basolateral plasma membrane; ISS.
GO: GO:0016323; C:basolateral plasma membrane; ISS.
GO: GO:0019899; F:cytoskeletal adaptor activity; ISS.
GO: GO:0019899; F:cytoskeletal binding; ISS.
GO: GO:0035200; F:spectrin binding; ISS.
GO: GO:005200; F:structural constituent of cytoskele
GO; GO:0045199; P:maintenance of epithelial cell pola
01-NOV-1995 (Rel. 32, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS50297; ANK REP REGION; 1. PROSITE; PS50088; ANK REPEAT; 20. PROSITE; PS50017; DEATH DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPRO02110; ANK.
InterPro; IPRO00488; Death.
InterPro; IPRO11029; DEATH_11ke.
InterPro; IPR000906; ZUS.
                                                        Ankyrin 1 (Erythrocyte ankyrin)
Name=Ank1; Synonyms=Ank-1;
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M84756; AAA37236.1; -.
PIR; 149502; 149502.
HSSP; P16157; 1N11.
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SWART; SM00005; DEATH; 1.
SWART; SM00218; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00023; Ank; 23.
Pfam; PF00531; Death; 1.
Pfam; PF00791; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR01415; ANKYRIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
102
135
168
                                                                                                                                                                                                                              NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40
73
106
139
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1387
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SEQUENCE FROM N.A. (ISOFORMS 7 AND 8).
STRAIN=C3H/HEJ; TISSUE=Bone Marrow;
MEDLINE=97213781; Pubed=9060470; DOI=10.1083/jcb.136.5.1059;
MEDLINE=97213781; Pubed=9060470; DOI=10.1083/jcb.136.5.1059;
MEDLINE=97213781; Discomes L.L., Lux S.E.;
"Isoforms of ankyrin-3 that lack the NH2-terminal repeats associate with mouse macrophage lysosomes ";
J. Cell Biol. 136:1059-1070(1997).
-!- FUNCTION: ANKYRINS ATTHEY BIND TO THE ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2, TO NA-K ATPASE, TO THE LYMPHOCYTE MEMBRANE PROTEIN BAND TO THE CYTOPLASHIC DOMAIN OF THE ERYTHROCYTE ANKRINS ALSO LINK SPECTRIN (BETA CHAIN) TO THE CYTOPLASHIC DOMAIN OF THE ERYTHROCYTES ANION EXCHANGE PROTEIN;
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORMS 1-6).
STRAIR=C57BL/G4J TISSUB=Kidney;
MEDLINE=5340633; PubMed=7615634; DOI=10.1083/jcb.130.2.313;
Peters L.L., John K.M., Lu F.M., Eicher E.M., Higgins A., Yialamas M., Turtzo L.C., Otsuka A.J., Lux S.E.;
"Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene family and the major ankyrin in kidney, is expressed in alternatively spliced forms, including forms that lack the repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ISOId=Q61307-8; Sequence=VSP_050349, VSP_050351, TISSUE SPECIFICITY: MAJOR FORM OF ANKYRIN IN KIDNEY AND OTHER BPITHELIAL TISSUES. ALSO EXPRESSED IN MACROPHAGES, MECAKARYOCYTES, LEYDIG CELLS, CARDIAC, SMOOTH AND SKELETAL MUSCLE, INITIAL SEGMENTS OF AXONS, AND NOBES OF RANVIER.
SIMILARITY: CONTAINS 24 ANK REPEATS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THEY RETAIN MOST OR ALL OF THESE BINDING FUNCTIONS.
SUBCELLULAR LOCATION: PLASMA-MEMBRANE ASSOCIATED. ISOFORMS 7 AND
ARE ASSOCIATED WITH THE LYSOSOMAL MEMBRANE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=Q61307-3; Sequence=VSP_050350, VSP_050353, VSP_050355;
                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IsoId=Q61307-7; Sequence=VSP_050349, VSP_050351, VSP_050355;
                                                                                          G61307; 008866; 008867; 061305; 061309; 061310; 01-JUN-1998 (TrEMBLrel. 06, Created) 01-JUN-1998 (TrEMBLrel. 06, Last sequence update) 01-JUN-1998 (TrEMBLrel. 06, Last sequence update) 4nkyrin 3 (Ankyrin G) (Epithelial ankyrin) (Ankyrin-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VSP_050355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IsoId=Q61307-2; Sequence=VSP_050350, VSP_050353;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Event=Alternative splicing; Named isoforms=8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IsoId=Q61307-4; Sequence=VSP_050354,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isold=Q61307-6; Sequence=VSP_050354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IsoId=Q61307-5; Sequence=VSP_050352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IsoId=Q61307-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     domain.";
J. Cell Biol. 130:313-330(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                L40631; AAB01603.1;
L40632; AAB01605.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB01605.1;
AAB58381.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB01604.1;
AAB01607.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      U89274; AAB58380.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                              Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                       061307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
EMBL;
EMBL;
EMBL;
EMBL;
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                                           RESULT
Q61307
                                                                                          33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 221 IAEGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYN 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         148 LOOGHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LONDPNP-----D 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANPANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               363
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HIACKKONH -- IRVMELLILKTGASIDAVTESGLTPLHVAŠFMGHLPIVKNILQRGASPNVS 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NVKVETPLHMAARAGHTE-VAKYLLQNKAKANAKAKDDQTPLHCAARIGHTGMVKLLLEN 488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RVVRKNYEKCHD-----LATIRAALMQDRSGGELVNLGDFESENIL---GSPNAK 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       664
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197 VLSKTGFTPLHIAAHYENLNVAQLLLNRGA----SVNFTPQNGITPLHIASRRGNVIMV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       519 SAKPNI------KGEDTVAKSLLMED-----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GASPNLATTAGHTPLHTAAREGHVDTALLEKEASQACMTKKGFTPLHVAAKYGK---V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---HSPAWN-GYTPLHIAAKONQIEVARSLLQY-GGSANAESVOGVTPLHLAAQEGHTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LHYA I SKGDSFLVQKI LAHTGVDVNCENNLGQTPLHLAVEGGDPKI VSSLLKAGAVVNRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                204242 MW; AE6B85B5B29001E5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. 5.1e-12;
; Mismatches 257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.9%; Score 381.5; DB 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DDNGRSVLSSAIVPGRKEKGVLGIVNKL 810
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ANK 23.
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Best Local Similarity 26.0%; Pre
Matches 179; Conservative 101;
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                                                                                                                                                                                       282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            233 VATLLIARAAAVDFT----ARNDITPLH-VASKRGNANWVKLL-----LDRGAK-IDA
                                                                                                                                                                                                                                                                 520 AKPNI------KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                         |: | : | : | : | : | 564 ------ASELLOKS------AGKSGLTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
TISSUB=Brain stem;
MEDLINE=59138209; PubMed=7836469; DOI=10.1074/jbc.270.5.2352;
MEDLINE=59138209; PubMed=7836469; DOI=10.1074/jbc.270.5.2352;
MARYPINE=51 B., Lambert S., Bennett V.;
"AnkyrinG. A new ankyrin gene with neural-specific isoforms localized
                                                                     184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH------
                                                                                                180 TKGKVRLPALHIAARKDD-----TKAAALLLQNDTNADVESKSGFT-PLHIAAHYGNIN
                                                                                                                                                                                                                                             342 FISRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH
                                                                                                                                                                                                                                                                                                       402 YAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
                                        Gaps
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
         8.8%; Score 378.5; DB 2; Length 1943; 25.7%; Pred. No. 8e-12; tive 98; Mismatches 275; Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Ankyrin 3 (ANK-3) (Ankyrin G).
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          Query Match
Best Local Similarity 25.7*
Matches 175; Conservative
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Q12955;
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LVK (in isoform 5).
                                                                                                                             InterPro; IEROUGOS6; DEATH—like.

Ream; PRO1021; DAN; 24.

Refam; PRO5021; DAN; 24.

Refam; PRO5021; DAN; 24.

Refam; PRO5021; DAN; 1.

Refam; PRO5021; DAN; 1.

Refam; PRO5021; DAN; 22.

REAM; SMO0148; ANK; 22.

REMART; SMO0148; ANK; 22.

REMART; SMO018; ANK; REPEAT; 1.

RESITE; PS50018; ANK REPEAT; 21.

RESITE; PS50017; DEATH—DOMAIN; 1.

RESITE; PS50017; DEATH—DOMAIN; 1.

RESITE; PS50017; DEATH—DOMAIN; 1.

REPOSITE; PS50017; DEATH—DOMAIN; 1.

REPOSITE; PS50017; DEATH—DOMAIN; 1.

REPOSITE; PS50017; DEATH—DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                            24 X ANK MOTIF REPEATS.
SPECTRIN BINDING DOMAIN.
REGULATORY DOMAIN (REGULATES BINDING OF ANKYRIAN TO SPECTRIN AND THE BAND 3
PROTEIN).
                                                                                                                                                                                                                                                                                                                                                   ANION EXCHANGE PROTEIN BINDING DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (in isoform 7 and isoform 8). P_050351.
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G -> GDKCTWFKIPKVQEVLVKS (in isoform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SP 050349. (In isoform 2 and isoform 3).
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SDGEEG -> MALPHS (in isoform 2 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /FTId=VSP 050355.
1943 AA; 212013 MW; B23C4B6F82904804 CRC64;
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/Frid=VSP_050354.
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MOTIF 24.
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                        PIR; T42713; T42713.
PIR; T42714; T42714.
PIR; T42715; T42715.
PIR; T42716; T42716.
HSSP; P16157; 1N11.
GO, GO:005202; C:Synapse; IDA.
InterPro; IPR002110; ANK.
InterPro; IPR00488; Death.
L40632; AAB01606.1;
L40631; AAB01602.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      197 TKGKVRLPALHIAARKOD-----TKAAALLLONDNNADVESKSGFT-PLHIAAHYGNIN 249
                                                                                                                                                                                                                                                                       250 VATLLIMRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA 296
                                                                                                                                                                                                                                                                                                                                  282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                     342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YAVKNIKNADLTLENMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS 519
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                       red. No. 3e-11;
Mismatches 277; Indels 141;
                                                                                                          TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH---
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25.5%; PL. 92;
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01-0CT-2000 (TrEMBLrel. 15,
01-MAR-2004 (TrEMBLrel. 26,
Ankyrin 1 (Fragment).
                                                  175; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the Buropedn Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                 Event-Alternative splicing, Named isoforms=1,
Comment=A number of isoforms are produced;
Name=1, Synonyms=480-kDa isoform;
Isofd=21295-1, Sequence=Displayed;
TISSUB SPECIFICITY: Expressed in brain and other tissues. Isoform
                                                                                                                                        and
                                                                      -i- FUNCTION: Membrane-cytoskeleton linker. The neural-specific isoforms may participate in the maintenance/targeting of ion channels and cell adhesion molecules at the nodes of Ranvier
                                                                                                                                                               axonal initial segments.
-!- SUBBUNT; Neural-specific isoforms may be a constituent of a
neurofascin/NRCAM/ankyrin G complex.
-!- ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480399 MW; F42379E55768B684 CRC64;
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TIGREPHAS; TIGROLIV84; T den put tspse; 1.
PROSITE; PSS00397; ANK REP REGION; 1.
PROSITE; PSS0088; ANK_REPEAT; 21.
PROSITE; PSS0017; DEATH DOMAIN; 1.
Alternative splicing; ANK repeat; Cytoskeleton; Repeat.
REPEAT 73 102 ANK 1.
                    axonal initial segment and node of Ranvier.";
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Ocy GO:0006605; P:protein targeting; NAS.
InterPro; IPR002110; ANK.
InterPro; IPR000488; Death.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIMILARITY: Contains 23 ANK repeats.
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InterPro; iPR001006; ZUS.
Pfam; PF00423; Ank; 24.
Pfam; PF00531; Death; 1.
Pfam; PF00591; ZUS, 1.
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HSSP; P16157; 1N11
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Length 4377;

DB 1;

8.8%; Score 377.5;

Query Match

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Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
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                                       NCBI_TaxID=9606;
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                               364 ------YFGNTIA 400
                                                                                                                                                                                                                                                                                                                                                                                                                                 315 DHLDCVRLLLQYNAEIDDITLDHLTPLHVAAHCGHHRVAKVLLDKGAKPNSRALNGFTPL 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            375 HIACKGONH--IRVMELLLIKMGASIDAVTESGLTPLHVASFMGHPPIVKSLLQREASPNVS 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                492 NANPNLATTAGHTPLHIAAREGHVETALLEKEASQTCMTKKGFTPLHVAAKYGK---V 548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RMAELLLE--HDAHPNAAGKSGLTPLHVAVHHNHL--DVVRL-----LLPRGGSPHSP 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665 VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL 782
                                                                                                                                                                                                                                                                                             281 VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                                     338 DI----LVDGDGKNPLHHA--- 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RVVRKNYEKCHD-----LATIRAALMQDRSGGELVNLGDFESENIL---GSPNAK 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ::| | : | : | | | | : :|:
151 LQQCHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LQNDPNP-----D
                                                                                                                                                                                                                                                                                                             200 VLSKTGFTPLHIAAHYENLAVAQLLLARGA----SVNFTPQNGITPLHIASRRGNVIMV
                                                                                                                                                                                                                                                                                                                                                                       HYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          605 FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DVNGDTPLHIAVEGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SAKPNI ----YKGFTPLHFVAGGGSRDTF
                                                                                                                                                                                                           Gaps
                                                                                                                                                                     1136 AA; 123182 MW; 07CD8B1568ACE8C7 CRC64;
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Hypothetical protein FLJ44940.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSNGTTPLAIA----KRLGYISVTDVL 785
                                                                                    PROSITE; PS50088; ANK_REPEAT; 20.
PROSITE; PS50297; ANK_REP_REGION; 1.
                                                                                                                                                                           Query Match
Best Local Similarity 25.9
Matches 178; Conservative
InterPro; IPR000906; ZUS.
Pfam; PF00023; Ank; 23.
Pfam; PF00791; ZUS; 1.
PRINTS; PR01415; ANKYRIN.
                                                         SMART; SM00248; ANK; 23.
SMART; SM00218; ZU5; 1.
                                                                                                                                  1136
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                                                                                                C TISOUE-Amygdala;

C TISOUE-Amygdala;

C TISOUE-Amygdala;

C TISOUE-Amygdala;

C TISOUE-Amygdala;

C Obhima A., Takhashi-Fujii A., Tanase T., Imose N., Takeuchi K.,

A Arita M., Musashino K., Yuuki H., Hara H., Sugiyama T., Irie R.,

A Otsuki T., Sato H., Wakamatus A., Ishii S., Yamamoto J., Isono Y.,

RA Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M.,

RA Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M.,

RA Murakawa K., Kanehori K., Masuho Y., Nagai K., Isogai T.;

Rubil, AKI26888 BAC86737.1; -.

DR RSPP QO0420; JAWC.

DR PROWIT: PRO1015; ANKYIN.

DR RIWES, PRO1415; ANKYIN.

DR PROSITE; PS50297; ANK IP.

DR PROSITE; PS50297; ANK REPEAT; 17.

DR PROSITE; PS50297; ANK REPEAT; 17.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            233 TCKDKKSYTPLHAAAAS-----SGMISVVKYLLDLGVDMNEPNAYGNTPLHVACYN-GQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    450 NL-----ECINILILNTGADF---NKKDKFGRSPLHYAAANCNYQCLFALVGSGASVNDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    72 VEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPP----IVQDSNLYSSI-GGVPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            127 EAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDJIFMNESEIAEGISN---PL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  177 LHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMGHIEVVKL--LVSHGAEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAKRGI-----HGMFPLHLAALSGFSD---CCRKLLSSGFDIDTPDDFGRTCLHAAAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9 LEEVEDESPAFISK------LPQENKSLHSPPSGNVLVRYPSLVQAIFNGDPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNA
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Euteleostomi;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     687 AA; 74096 MW; B5169C83017FF571 CRC64;
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                                                                                                                                                             TKGKVRLPALHIAARKDD-----TKAAALLLONDTNADVESKSGFT-PLHIAAHYGNIN 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  336 ILQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVILD--KKASPNAKALN-----GFTPLH 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        447 VRGETALHMAARSGQAB-VVRYLVQDGAQVEAKAKDDGTPLHISARLGKADIVQQLLQQG 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           642 AVTRQGIASVHLAAQEGHVDMVSLLLSRNANVNLSNKSGL---TPLHLA-AQEDRVNVAE 697
                                                                                                                                                                                                                                                                                                                                                             LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANOSPLHIITOKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   342 FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     506 ASPNAATTSGYTPLHLAAREGHEDVAAFLLDHGASLSITTKKGFTPLHVAAKYGKLEV-- 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----AGKSGLTP 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679 FKTSATPTPLNLACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
                                                                                                                                                                                                                                              -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV
                                                                                                                                                                                                                                                                             AKPNI -----KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNES----EIAEGISNPLH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YAVKNINADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
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8.6%; Score 371.5; DB 2; Length 1726;
25.6%; Pred. No. 1.6e-11;
ive 98; Mismatches 276; Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel. 13, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
25-OCT-2004 (TrEMBLrel. 28, Last annotation update)
CG11020-PA (Mechanosensory transduction channel NOMPC).
Name=nompC; ORFNames=CG11020;
Drosophila melanogaster (Fruit fly).
Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Nooptera; Endopterygota; Diptera; Erachycera; Endopterygota; Diptera; Erachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -aQGHTHIINVLLQNNASPN 773
                                  Best Local Similarity 25.6
Matches 174; Conservative
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                                                                                                                                                                                                                                                                                                                                                             282
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Q9VMR4
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MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

METAGUBER R.D., Felngold E.A., Grouse L.H., Derge J.G.,

Altschul S.F., Zeeberg B., Buerow K.H., Schaefer C.F., Bhat N.K.,

MISCHAINE R.F., Jordan H., Moore T., Max S.I., Wang J., Hateh F.,

Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

A stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

Rahesley J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Mhiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

Makariguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

Jones S.J., Marra M.A.,

"Generation and initial analysis of more than 15,000 full-length human and many and money an
                                                                                                                                              TVLHYAISKGDSFLVQKILAHTGVDVNCENN-LGGTPLHLAVBGGDPKIVSSLLKAGAVV 779
                                  ------ATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN 720
                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
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Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; BC021657, AAH21657.1;
MGD; MGI:88026; Ank3.
GO; GO:0045202; C:synapse; IDA.
Pfam; PF00023; Ank; 24.
Pfam; PF000791; ZU5; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT; 1726 AA.
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STRAIN=FVB/N; TISSUE=Salivary gland;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
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PROSITE; PS50297; ANK REP REGION;
PROSITE; PS50017; DEATH DOMAIN; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2004 (TrEMBLrel. 26,
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SMART; SM00005; DEATH; 1.
SMART; SM00218; ZU5; 1.
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PR01415; ANKYRIN.
                                                                                                                                                                                                                                                                NRL---DDNGR 787
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                  AKPSDLNFKTS
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RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Wan K.H., Doyle C., Baxerer B.G., Helt G., Nelson C.R., Gabor G.L.,
RA Abril J.F., Agbayani A., An H.J., Andrews Pfannkoch C., Baldwin D.,
RA Ballew R.M., Basu A., Berman B.P., Bhandari D., Bolshakov S.,
RA Ballew R.W., Basu A., Berman B.P., Bhandari D., Bolshakov S.,
RA Burtis K.C., Busam D.A., Buller H., Cadieu E., Center A., Chanta I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Dodson K., Doup L.B., Downes M., Digan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.B., Downes M., Digan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Gong E., Gorrell J.H., Gu Z., Glabart W.M., Glasser K.,
RA Fosler C., Gabriellan A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Jalai M., Kalush F., Karpen G.H., Ke Z., Kennison J.R., Ketchum K.A.,
A Jalai M., Kalush F., Karpen G.H., Ke Z., Kennison J.R., Ketchum K.A.,
Liu X., Mattei B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
Molson D.R., Nelson K.A., Nixon K., Nusus D.M., Nelson D.L.,
RA Rainert R., Saunders R.D., Scheeler F., Shen H.,
RA Shies E., Schael Kiamos I., Simpson M., Skropski M.P., Smith T.,
RA Spier E., Schael Kiamos I., Simpson M., Skropski M.P., Smith T.,
RA Shies R., Tector C., Turner R., Weisen D.R., Wassen D.R., Wasserman D.R., Was
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Gelniker S.E., Wheeler D.A., Kronmiller B., Carlson J.W., Halpern A., Patel S., Adams M., Champe M., Dugan S.P., Frise B., Hodgson A., George R.A., Hoskins R.A., Laverty T., Muzny D.M., Nelson C.R., Patk S., Peiffer B.D., Klichards S., Sodergren B.J., Svirskas R., Tabor P.E., Wan K., Stapleton M., Sutton G.G., Venter C., Weinstock G., Scherer S.E., Myers E.W., Gibbs R.A., Rubin G.M.; "Finishing a Whole-genome shotgun: Release 3 of the Drosophila melanogaster euchromatic genome sequence."; genome Biol. 3:RESEARCH0079-(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=22426070; PubMed=12537573;

Kaminker J.S., Bergman C.M., Kronmiller B., Carlson J., Svirskas R., Patel S., Friese E., Wheeler D.A., Lewis S.E., Rubin G.M., Ashburner M., Celniker S.E.;

"The transposable elements of the Drosophila melanogaster euchromatin: a genomics perspective.";
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Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochnik S.B.,
Smith C.D., Tupy J.L., Whitfied E.J., Bayraktaroglu L., Berman B.P.
Bettencourt B.R., Celniker S.E., de Grey A.D., Drysdale R.A.,
Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.Q.,
Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Annotation of the Drosophila melanogaster euchromatic genome: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genome Biol. 3: RESEARCH0084-RESEARCH0084 (2002).
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Genome Biol. 3:RESEARCH0083-RESEARCH0083(2002).
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FlyBase; Submitted (SEP-2002) to the EMBL/GenBank/DDBJ databases.

SEQUENCE FROM N.A.

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486
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        166 -DVRNAVLGNKEIKEEWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEG 224
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      342 -PTSRNLDFGL-VDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTI 399
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             536 MEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMQDRSG----- 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    225 ISNPLHADVDNNPVKGAKNVMT-LMHLVYAC-DVDPRIVKALGEVENDEGDLGANAYNVL
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                                                                                                                                                     EMBL; AE003609; AAF52248.3; -.
EMBL; AF242296; AAF59842.1; -.
HSSP; P09959; 1SW6.
HSSP; P09959; 1SW6.
GO: 00130506; F: ankyrin binding; NAS.
GO: 60.0018381; F: mechanically-gated ion channel activity; NAS.
GO: GO: 0007592; P: detection of sound; IMP.
GO: GO: 0007698; P: mechanosory behavior; IMP.
GO: GO: 0007605; P: perception of sound; IMP.
GO: GO: 0007605; P: perception of sound; IMP.
GO: GO: 0007605; P: perception of sound; IMP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1619;
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                                              Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases
                                                                                                                     "A Drosophila mechanosensory transduction channel."; Science 0:0-0(2000).
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PROSITE; PSS0297; ANK REP REGION; 1.
PROSITE; PS0190; CYTOCHROME C; UNKNOWN 1.
PROSITE; PS00794; HPPK; UNKNOWN 1.
                                                                                                      , Willingham A.T., Zuker C.S.;
                                                                                                                                                                                                                                                                                                                                     Interpro; IPR002110; ANK.
Interpro; IPR0021110; Cat channel TrpL.
Interpro; IPR000345; CytC heme_BS.
Interpro; IPR000550; Hppk.
                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00023; Ank; 29.
PRINTS; PR01415; ANKYRIN.
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              SEQUENCE FROM N.A.
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The present invention relates to Ehrlichia canis immunoreactive surface glycoprotein pi53 (ADO15510) and Ehrlichia chaffeensis immunoreactive surface glycoprotein pi56 (ADO15511). The proteins are useful as subunit vaccines against canine and human ehrlichioses. They are also useful for serologic and molecular diagnostics of E. canis or E. chaffeensis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New DNA encoding Ehrlichia species immunoreactive surface protein p156, useful as vaccines against canine and human for diagnosing ehrlichioses.
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canine monocytic ehrlichiosis; bone marrow hypoplasia;
haematologic abnormality; leukopenia; thrombocytopenia; serodiagnosis;
indirect fluorescent-antibody; IFA; acaricide; vaccine.
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                                             LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS
                                                                           IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE
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                                                                                                                                                              AKNVMTLMHLVYACDVDPR I VKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCTGD
                                                                                                                                                                                                      KLKLCMEKTKTDF1DTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPL
                                                                                                                                                                                                                                                                                                                                                                           GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This invention relates to a novel use for the immunoreactive surface protein P43 specific to Ehrlichia canis (E. canis), which can be used as an antigon to immunodiagnose canime ehrlichiosis. This is a potentially fatal tick borne disease of dogs that is also known as canime monocytic ehrlichiosis, and which causes bone marrow hypoplasia as well as haematologic abnormalities such as leukopenia and thrombocytopenia. The present invention describes the serodiagnosis of canime ehrlichiosis performed by indirect fluorescent antibody (IFA) and using recombinant E canis P43 proteins. Accordingly, compositions derived from recombinant eya proteins against canime encocytic ehrlichiosis. This polypeptide sequence is the E. canis P43 protein of the invention.
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Pred. No. 5.5e-145;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English.
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99.7%; Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 10; SEQ ID NO 2; 60pp;
27-APR-2001; 2001WO-US013446
                                                              28-APR-2000; 2000US-00561322
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Matches 373, Conservative
                                                                                                                                                                                            Mcbride JW;
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                                                                                                                                                                                                                                                                                                  TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVN 780
                                  LAVINORGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLIMEDYK
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   --- VNTODVNGRTPLHCAAISGNSKGL
                                                                                                                                                                 PNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFG
                                                                                                                                                                                                                                                   GFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ischaemia-reperfusion injury; haematopoiesis; cancer; neuropathy; transgenic animal; Alzheimer's disease; Parkinson's disease; burn; amyotrophic lateral sclerosis; platelet disorder; thrombocytopenia; ulcer; osteoporosis; bone degenerative disorder; thrombocytopenia; ulcer; osteoporosis; bone degenerative disorder; periodontal disease; gut protection; lung; liver fibrosis; immune deficiency; infection; severe combined immunodeficiency; SCID; autoimmune disorder; allergy; multiple sclerosis; rheumatoid arthritis; diabetes mellitus; asthma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of
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Wang
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                                                                                                                                                                                                                                                                                                                                                                   RLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADINLDGDHNILFDQCL
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Xue AJ,
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Zhang J, Chen
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   -SPQASA-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU28174 standard; protein; 1053
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19-MAY-2000; 2000US-00574454.
17-JJN-2000; 2000US-00596193.
14-JJL-2000; 2000US-00616847.
19-SEP-2000; 2000US-00665363.
20-OCT-2000; 2000US-006693267.
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Yang Y,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to Bhrlichia canis immunoreactive surface glycoprotein p153 (ADO15510) and Bhrlichia chaffeensis immunoreactive surface glycoprotein p155 (ADO15511). The proteins are useful as subunit vaccines against canine and human ehrlichioses. They are also useful for serologic and molecular diagnostics of E. canis or E. chaffeensis.
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                                                                                                                                                                                                                                                                                                                                                                                                                 protein p153
ehrlichioses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  39 APESEDLYTVIIPKGKRTA-APILERKSPTPEPKVEDDEDLPPTLPPRTFSGE-----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66 IYQGIPGHQEEMEEDPYASLDQVSQGAGADGIQENPVPQEAGEELEEDIYQDPADFQGLG
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                                                                                              Vaccine; immunoreactive; surface glycoprotein; p153; p156; canine ehrlichiosis; human ehrlichiosis.
                                                                                                                                                                                                                                                                                                                                                                                                          New DNA encoding Ehrlichia species immunoreactive surface protein p156, useful as vaccines against canine and human for diagnosing ehrlichioses.
                                                               Immunoreactive surface protein p153, SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 12; SEQ ID NO 1; 41pp; English.
                                                                                                                                                                                                                                            04-NOV-2003; 2003WO-US034916
                                                                                                                                                                                                                                                                               04-NOV-2002; 2002US-0423573P.
                                                                                                                                                                                                                                                                                                                                                Walker DH;
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                              (first
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                                                                                                                                              Ehrlichia canis.
                                                                                                                                                                               WO2004042037-A1.
                                                                                                                                                                                                                                                                                                               (RERE-) RES
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                                                                                                                                                                                                               21-MAY-2004
AD015510;
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                                                                                            Vaccine;
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The projection of networks and the control and brain tissue and is useful for the treatment of central and prain tissue and is useful for the treatment of central and prain tissue and is useful for the treatment of central and peripheral netwous system disease, and amyotrophic lateral activity, regulation of haematopoiesis and is useful for treating myeloid or lymphoid cell disorders, platelet disorders such as thrombocytopenia and for regeneration of bone, cartilage, tendon, ligament and/or nerve tissue growth, and in tissue repair, healing of burns, incisions, ulcers, for treating osteoporosis, osteoarthritis, bone degenerative disorders, or periodontal disease. Furthermore, (I) is also useful for gut protection or regeneration and treatment of lung or liver fibrosis, or periodontal disease. Furthermore, (I) is also useful for gut protection or regeneration and treatment of lung or liver fibrosis, or periodontal disease. Furthermore, (I) is also useful for gut protection or regeneration and treatment of lung or liver fibrosis, creperfusion injury in various tissues, various immune deficiencies and disorders including severe combined immunodeficiency (SCID), bacterial or fungal infections, autoimmune disorders e.g. multiple sclerosis, allergic reactions and conditions, sclear as sathma or other respiratory problems. Comparatory fat; lipid, protein, carbohidrate, vitamins, minerals, provides analgesic effects blorbythms or circadian cycles of rhythms, fat; lipid, protein, carbohidrate, vitamins, minerals, provides analgesic effects or other pain reducing effects, immunoglobulin like activity and can act as an antigen in a vaccine composition to raise an immune and process. and polynucleotides (II). (I) and (II) are useful for treating inflammatory conditions such as arthritis, nephritis, Crohn's disease, ischaemia-reperfusion injury, shock, sepsies, immune responses, and is involved in increasing haematopoiesis, stem cell survival, bone growth and remodeling. (I), (II) and modulators of (II) are useful for prophylaxis or treatment of one or more cancers. (II) is also useful for creating transgenic animals useful for studying the in vivo activities of the polypeptide as well as for studying modulators of the polypeptides. (I) induces the proliferation of neural cells and regeneration of nerve invention relates to novel isolated human secreted polypeptides (I) Example 5; SEQ ID NO 343; 107pp; English amino acid sequences of the invention

Sequence 1053 AA

451 170 AVLGNKEIKE-------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215 216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272 273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP 332 -----NVSDRAGRTALHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMG 184 333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 392 SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI 511 GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571 TI----RAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSN 627 49 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS------EEAVQVLL 94 185 HIEVVKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDNNEP 236 NAYGNTPLHVACYN-GQDVVV-NELIDCGAIVNQKNEKGFTPLHFAAASTHGALCLELLV Query Match
9.8%; Score 421; DB 4; Length 1053;
Best Local Similarity 25.2%; Pred. No. 2.1e-23;
Matches 189; Conservative 101; Mismatches 269; Indels 190; Gaps DYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 134 393 452 원 셤 ò 셤 유 ò 쉽 ò ò δ ò

The invention relates to a method of determining the angiogenic index of a tissue or cell sample comprising assessing, in a sample, the expression levels of one or more differentially—expressed gene from any of 34 DNA sequences, given in the specification, where the levels are indicative of the angiogenic index. The methods and compositions of the present invention are useful for diagnosing, preventing and/or treating cancer, coronary artery disease, myocardial ischemia or coronary actoriosclerosis. They can also be used in research, drug discovery and forensic medicine involving angiogenesis. This sequence corresponds to

Disclosure, SEQ ID NO 89; 296pp; English.

ischemia and/or arteriosclerosis.

q	400 TPDDFGRTCLHAAAAGGNLECLNLLLNTGADFNKKDKFGRSPLHYAAANCN 450	
ò	628 HNVMKDILNFVGDSLHLPSERGYNAMQ 654	
a	451 YQCLFALVGSGASYNDLDERGCTPLHYAATSDTDGKCLEYLLRNDANPGIRDKQGYNAVH 510	
ò	655 VAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGL 703	
엄	511 YSAAYGHRLCLQLIA-SETPLDVIMETSGTDMLSDSDNRATISPLHLAAYHGHHQALEVL 569	
ò	704 VGQHGIDINQRMGSDROTVLHYAISKG 730	
q	570 V-QSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAAATNG 628	
ò	731 DSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG 786	
q	629 HSECLRLLIGNAEPQNAVDIQDGNGQTPLMLSVLNGHTDCVYSLLNKGANVDAKDKWG 686	
ò	787 RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815	•
g	687 kTALHRGAVTGHEECVDALLQHGA 710	
RESU	RESULT 5	
ID ADK6	,5850 ADK65850 standard, protein; 1059 AA.	
ΧX	ADK65850;	
žŧ	164 204	
S X	Ub-MAI-2004 (Lirbt entry)	
GE S	Angiogenesis-differentially expressed protein #60.	
₹₹	antiarterioscle	
K.	ogenesis inhibitor, angiogenes	
2 2 3	arcery disease; myocardian.c medicine.	
38	Homo sapiens.	
X K	WO2003066831-A2.	
ž E	14-AUG-2003.	
X E	07-FEB-2003; 2003WO-US003848.	
ž E	07-FBB-2002; 2002US-00067482.	
74 G	10-JUN-2002; 2002US-00164595.	•
£ & }	18-A0G-2002; 200203-04-03645. 03-JAN-2003; 2003US-0437746P.	
1 83	(ORIG-) ORIGENE TECHNOLOGIES INC.	
¥	Sun Z, Li X, Kovacs KF, Fan W, Jay G;	
1 88	WPI; 2003-731502/69.	
I.	the angiogenic index of a tissue or cell sample	
E E E	expression levels of differentially expressed genes, useful for diagnosing or treating cancer, coronary artery disease, myocardial	
5	TECHDENIA AND/OF ATTENTIONS:	

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Example; SEQ ID NO 185; 1980pp; English.
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                                                            Gaps
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                                                            Indels 190;
one of the 'differentially expressed proteins of the invention
                                        Length 1059;
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Pred. No. 2.2e-23;
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                    Sequence 1059 AA;
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New protein complex comprising at least one first and second protein of
the Tumor Necrosis Factor-alpha(TNF-alpha)-signaling pathway, useful for
diagnosing or treating inflammation, neurological diseases, infectious
inflammatory bowel disease; infectious disease; septic shock; bacterial infection; neurological disease; stroke-induced inflammation; neurodegenerative disease; cancer; antiinflammatory; antiarthritic; antirheumatic; cytostatic; antibacterial; gene therapy; human.
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This invention relates to novel protein complexes of the tumour necrosis factor-alpha (TNF-alpha) signalling pathway. Specifically, it refers to methods for preparing these complexes comprising at least two component proteins, as well as screening methods to identify modulators of the pathway, which include antibodies, agonists and antagonists thereof. The pathway, which include antibodies, agonists and antagonists thereof. The conflowing prognosing or treating chronic inflammatory diseases such a city and bacterial infections; neurological diseases such as stroke-induced inflammation in neurons; neurological diseases such as stroke-induced inflammation in neurons; neurological diseases and cancer. Accordingly, these complexes can be used for the development of pharmaceutical compositions that exhibit antihifammatory, antiarthritic, antirheumatic, cytostatic and antibacterial activities and can be used for gene therapy purposes. In particular, the invention further provides at INRNA-oligomorleotides useful for inhibiting protein expression for in vitro or cell culture assays. This polypeptide is a human protein that can be used in combination with other proteins provided in the provided in the such as a series of the TNF-alpha signalling pathway the invention

170 AVLGNKEIKE------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 269; Indels 190; Length 1059; 9.8%; Score 421; DB 8; ilarity 25.2%; Pred. No. 2.2e-23; Conservative 101; Mismatches 269 Local Similarity Matches 189; Query Match Best Local S

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AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----EEAVOVLL 100 -----NVSDRAGRTALHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMG 190 241 HIEVVIKL--LVSHGAEVTCKDKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNEP MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 273 DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 55 216 333 191 140

393 DYFGNTIAHYAVKOKKNADLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLV 451

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2000US-02209639.
2000US-0220964P.
2000US-022451BP.
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                                          300 GNGADVNMKSKDGKTPLHMTALHGRFSRSQTII-QSGAVIDCEDKNGNTPLHIAARYGHE 358
                                                                       512 GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                  -----KNTVLHYAISKG 730
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                                                                                                                         406 TPDDFGRTCLHAAAAGGNL-----ECLNLLLNTGADF---NKKDKFGRSPLHYAAANCN
                                                                                                                                                                                                                                                                                      Immunomodulatory; human immunodeficiency virus; HIV; anaemia; angina; rheumatoid arthritis; antiarteriosclerotic; cardiant; vascular; cerebroprotective; thrombolytic; antimicrobial; ophthalmological; cytostatic; Alzheimer's disease; Parkinson's disease; human; cancer; multiple sclerosis; cancer; hyperproliferative disorder; infection; Gaucher's disease; neurological disease; cerebrovascular disorder;
                                                                                                              TI----RAALMODRSGGELVNLGDFESENILGSPNAKFLOHIOSANFGFSPARRGIVSSN
                                                                                                                                                     628 HNVMKDILN---FVGD-----SLH------LPSERGYNAMQ
                                                                                                                                                                                           655 VAALFGDKEAVKMLAKSAKPSDLNPKTS-----ATPTPLNLACLRGDNEVVRGL
                                                                                                                                                                                                                                                                                                                 RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
                                                                                                                                                                                                                                                                                                                             Human secreted protein, Seg ID No 488
                                                                                                                                                                                                                                   VGQHGIDINQRMGSD------
                                                                                                                                                                                                                                                                                                                                                                                      AAU20496 standard, protein, 705
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2000US-0189874P.
2000US-01998123P.
2000US-0205515P.
2000US-0205515P.
2000US-020567P.
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2000US-0184664P.
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                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             thrombosis; wound healing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200155326-A2
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16-MAR-2000;
17-MAR-2000;
18-APR-2000;
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28-JUN-2000;
30-JUN-2000;
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encoding human secreted proteins (II). (I) and (II) are used to prevent, treat or ameliorate a medical condition in e.g. humans, mice, rabbits, goats, horses, cats, dogs, chickens or sheep. (I) and (II) may be used in the prevention, treatment and diagnosis of diseases associated with inappropriate expression of secreted proteins. (I) and complementary sequences may also be used as DNA probes in diagnostic assays (e.g. polymerase chain reactions (PCR)) to detect and quantitate the presence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nucleic acids and polypeptides, useful for diagnosing, preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention relates to novel isolated nucleic acid molecules (I)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 11; SEQ ID NO 488; 753pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ruben SM
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2000US - 0249210P

2000US - 02492110P

2000US - 0249211P

2000US - 0249213P

2000US - 0249213P

2000US - 0249214P

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2000US - 0249214P

2000US - 0249218P

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2000US-0246525P.
2000US-0246526P.
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2000US-0250391P.
2000US-0251030P.
2000US-0251988P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           treating medical conditions
                                                                                                                                      2000US-024
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08-NOV-2000;
08-NOV-2000;
08-NOV-2000;
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                                                    38-NOV-200d
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                                                                                                                                                                                                                                              NOV-200d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rosen CA,
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proteins. The anti-(II) antibodies and antagonists may also be used to down regulate expression and activity of (II). The anti-(II) antibodies conversely and activity of (II). The anti-(II) antibodies and antagonists may also be used to down regulate expression and activity of (II). The anti-(II) antibodies in samples (e.g. by enzyme linked immunosorbant assay (EIISA)). The disorders include for example: immune/autoimmune diseases (e.g. HIV (human immunodeficiency virus) infections, aneamia, rheumatoid arthritis and multiple sclerosis), cancers and hyperproliferative disorders (e.g. melanomas, neoplasms of the breast or liver, Sezary syndrome and Gaucher's disease, neurological diseases (e.g. Alzheimer's disease, carchor, disease), carchor, and see and Charcot-Marie-Tooth disease), carchor, and see and charcot-Marie-Tooth disease), carchor, and see thrombosis), infections caused by bacteria, viruses and fungi and ocular disorders (e.g. corneal infections). (I) and (II), agonists, antagonists and antibodies can also be used to promote wound healing, maintain organs before transplantation, and support cell culture of primary tissues.
of similar nucleic acid sequences in samples, and so which patients may be in need of restorative therapy. (II) may also be used as antigens in the production of antibodies and in assays to identify modulators (agonists and antagonists) of the expression and activity of the secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIF 215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----NVSDRAGRTALHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMG 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HIBVVKL--LVSHGAEVTCKÖKKSYTPLHAAAS-----SGMISVVKYLLDLGVDMNBP 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             271 GNGADVNMKSKDGKTPLHMTXXHGRFSRSQTII-QSGAVIDCEDKNGNTPLHIAARYGHE 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLA 571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           330 LLINTLITS-----GADTAKRGI-----HGMFPLHLAALSGFSD----CCRKLLSSGFDID 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               654
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDI 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TPDDFGRTWSTCSCSGGNL----ECLNLLLNTGADF---NKKDKFGRSPLHYAAANCN 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             V-OSLLDLDVRNSSGRTPLDLAAFKGHVECVDVLINQGASILVKDYILKRTPIHAAATNG 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----ERAVOVLL 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HNVMKD1LN---FVGD-----SLH-----SLHONDILN---LPSERGYNAMQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88 YSAAYGHRLCXQLIA-SETPLDVLMETSGTDMLSDSDNRATISPLHLAAYHGHHQALEVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9.6%; Score 413; DB 4; Length 705;
25.2%; Pred. No. 4.9e-23;
ive 99; Mismatches 271; Indels 190;
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Best Local Similarity 25.2
Matches 189; Conservative
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787 RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815

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                            LHIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                  587
                                                                                                                                                                          588 LLPRG------GSP-----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE 631
                                                                                                                                                                                                       705
                                                                                                                                                                                                                                                                                745 GHTDIVTLLLKNGASPNEVSSDGTTPLAIA-----KRLGYISVTDVLKVVTDETSFVLVS 799
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--AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP
                                                 GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
                                                                                                                                               586 LVNLGDFESENILGSPNAKFLOHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
                                                                                                                                                                                                       SERGYNAMOVAAL FGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG
                                                                                                                                                                                                                           GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD
                                                                                                                                                                                                                                                                  OHG--IDINORMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New composition comprising two or more isolated polypeptides, useful preparing a medicament for treating pain in an animal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; pain; neuronal tissue; gene therapy;
spinal segmental nerve injury; chronic constriction injury; CCI;
spared nerve injury; SNI; Chung.
                                                                                                        566 GKN-----GLTPLHVAVHHNNLDIVKL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human Protein XP_016774, SEQ ID NO 13459.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADD47763 standard; protein; 1881 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Befort K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-AUG-2001; 2001US-0312147P.
01-NOV-2001; 2001US-0346382P.
26-NOV-2001; 2001US-0333347P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                             DKHRMSFPE 808
                                                                                                                                                                                                                                                                                                                                                                                  821 CDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (revised)
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GENBANK; XP_016774.
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Unidentified
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29-JAN-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to an isolated falcipain-2 inhibitor peptide. Peptides of the invention are derived from ankyrin and erythrocyte protein 4.1, and selectively inhibit falcipain-2-mediated cleavage of human erythrocyte protein 4.1, erythrocyte membrane ankyrin and haemoglobin. Further disclosed is a method for treating malaria infection in subject suspected of having malaria. The falcipain-2 inhibitor peptide is useful for preparing a composition for treating malaria infection infection. The current sequence is full length human ankyrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      350 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---- 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242 --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299 GDKL-KLCMEKTKTDFIDTANFANOSPLHIITOKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New falcipain-2 inhibitor peptide, useful for preparing a pharmaceutical composition for treating malaria infection caused by Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  149; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1880;
                                                                                                                                                                                                          Antiparasitic, gene therapy; falcipain-2; inhibitor; ankyrin; erythrocyte protein 4.1; haemoglobin; malaria; Ank P1; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 9.1%; Score 391.5; DB 8; Best Local Similarity 26.0%; Pred. No. 1.1e-20; Matches 174; Conservative 100; Mismatches 246;
                                                                                                                                                                                                                                                                                                                                                                                                 (SELI-) ST ELIZABETH'S MEDICAL CENT BOSTON INC.
    Example 6; SEQ ID NO 2; 72pp; English.
                                                                                                                                                                            seq id 2.
                                                                                         ADR90358 standard; protein; 1880 AA
                                                                                                                                                                                                                                                                                                                                        05-DEC-2003; 2003WO-US038835
                                                                                                                                                                                                                                                                                                                                                                      06-DEC-2002; 2002US-0431294P
                                                                                                                                                                             human ankyrin,
                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                              Chishti AH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2004-468808/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1880 AA;
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                                                                                                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                            Full length
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                                                                                                                                                  04-NOV-2004
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C derivative for allelic variation of the nucleic and sequence. Also claimed are a vector comprising the novel polymucleotide, a host cell comprising the vector, a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain and a kit to perform the method, an array, a method for identifying an agent that increases or decreases the expression of the polymucleotide sequence that is differentially expressed in neuronal tissue of a first animal subjected to pain, a method for identifying a compound which regulates the expression of the polymucleotide sequence which is differentially expressed in an animal subjected to pain, a method for identifying a compound that regulates the activity of one or more of the compound that regulates the activity of one or more of the compound that regulates the activity of one or more of the compound that regulates the activity of one or more of the compound that nanimal of one or more of the polymelectides, a method for identifying a compound useful in treating pain and a pharmaceutical composition comprising the one or more of polymelectides or their antibodies. The polymucleotides given in the conjugation of activity if an animal of one or more of the polymelectides or activity is useful for preparing a medicament for treating pain and a pharmaceutical composition comprising the one or more polymelectides or activity is useful for preparing a medicament for treating conditates its activity is useful for preparing a medicament for treating conditions activity is useful for preparing a medicament for treating conditions activity is useful for preparing a medicament for treating conditions activity is useful for preparing a medicament for treating conditions activity is useful for greating the one or more confined to the specification) which is differentially expressed during pain. human polynucleotides or a polynucleotide which represents a fragment ftp.wipo.int/pub/published_pct_sequences.

Sequence 1881 AA;

467 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---- 241 298 506 301 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 349 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITOKPDCSVLDIEEFTSRNLDFGLVDGDGK 357 407 406 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 460 LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525 GEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE 585 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705 QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763 LLPRG-----GSP----HSPAWN-GYTPLHIAAKQNQVEVARSLLQY-GGSANAE 631 -- KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT NPLHHA - - VEHLPPV - - - ILKGVMDHVKNSSEFQDLVNDPDYF - - - - GNT - IAHYAVKNK 408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP ------AKVNAKAKDDQTPLHCAARIGHTNMVKLLLENNANPNLATTAGHTP LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 149; 9.1%; Score 390.5; DB 7; Length 1881; larity 26.0%; Pred. No. 1.3e-20; Conservative 100; Mismatches 246; Indels 149; Similarity Matches 174; 242 358 Query Match Best Local S 194 468 507 526 586 588 646 632 461 ઠ 셤 ઠે 셤 ઠે g ઠે 셤 δ a ઠ a 8 셤 ઠ 셤 8 셤

GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD New tumor-associated antigenic target polypeptides and nucleic acids, useful in preparing a medicament for treating or detecting a proliferative disorder, e.g. breast, lung, colorectal, ovarian or Tumour-associated antigenic target; TAT; human; overexpression; catumour; diagnosis; cell profilerative disorder; breast cancer; colorectal cancer; lung cancer; ovarian cancer; liver cancer; central nervous system cancer; ovarian cancer; pancreatic cancer; cervical cancer; melanoma; bladder cancer; pancreatic cancer; chromosome identification; chromosome mapping; gene mapping; gene therapy; cytostatic. Tumour-associated antigenic target (TAT) polypeptide PRO80961, Claim 12; SEQ ID NO 1071; 7273pp; English. ABM80426 standard; protein; 899 AA. 29-SEP-2003; 2003WO-US028547. 02-OCT-2002; 2002US-0414971P. (first entry) Zhou Y; prostate cancer or tumor. 821 GDHNILFDQ 829 800 DKHRMSFPE 808 (GETH) GENENTECH INC. WPI; 2004-347921/32. N-PSDB; ACN37888. Zhang Z, WO2004030615-A2. Homo sapiens 18-NOV-2004 15-APR-2004. ABM80426; 745 ňu ΤD, RESULT 10 ABM80426

The invention relates to human tumour-associated antigenic target (TAT) polypeptides, and their related nucleic acids. The TAT polypeptides are oversypressed in cancer tissues compared to normal tissues, and may thus serve as effective targets for the diagnosis and treatment of cancer in mammals. The invention also relates to nucleic acid and polypeptide and polypeptides and treatment of cancer in sequences at least 80% identical to the TAT nucleic acids and polypeptides; expression vectors and host cells comprising a TAT nucleic acid; an antibody specific for a TAT polypeptide; a peptide or organic molecule which binds to a TAT polypeptide; a peptide or organic acid; an antibody specific for a TAT polypeptides, nucleic acids, antibodies, antagonists, binding molecules and compositions are useful for diagnosis of cancer in mammals. TAT polypeptides, nucleic acids, antibodies, antagonists, binding molecules and compositions are useful for diagnosis of cancer in particularly cancers such as breast cancer, colorectal cancer, lung cancer, cancers such as breast cancer, colorectal cancer, lung cancer, ovarian cancers of the central cancer; pancreatic cancer, cervical cancer, incomessed TAT mucleic acids may further be used as hybridisation probes, in chromosome and gene mapping, in chromosome identification and in gene therapy. The present sequence represents a TAT polypeptide.

Sequence 899 AA;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          266 EVENDEGDLGA-----NAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFA 320
                                                                                                                                                                   -----DLGVDMNEPNAY-----GNTPLHVACYN------GQDVVVNELIDCGAIV 111
                                                                                                                                                                                                                                                                    375 VMDHVXCNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAP 434
                                                                                                                                                                                                                                                                                                                                    435 IHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQ 494
                                                                                                                                                                                                                                                                                                                                                       DKFGRSPLHYAAANCNYQCLFALVGSGASVNDLDE------RGCTPLHYAA---TS 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DT-------H-YSAAY 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAIS 728
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    anti-inflammatory; immunosuppressive; osteopathic; cytostatic; anti-HIV; haemostatic; nephrotropic; antianaemic; antipsoriatic; hepatotropic; gene therapy; protein replacement therapy; cell proliferative disorder; cancer; adenocarcinoma; leukaemia; lymphoma; melanoma; myeloma; sarcoma anaemia; Crohn's disease; acquired immunodeficiency syndrome; AIDS; Goodpasture's syndrome; nflammation; osteoporosis; thrombocytopaenia;
                                                                                                    72
                                                                                                                                                                                                    NO-----SPLHIITOKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKG
                                                                                                                                                                                                                                  112 NOKNEKGFTPLHFAAASTH-GALCLELLVGNGADVNMKSKDGKTPLHMTALH-----G
                                                                                                                                                                                                                                                                                     NNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAGGGSR
                                                                   EILDIIFMNESEIA---EGISNPLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DTFRVVRKNYEKCHDLATIRAALMODRSGGELVNLGDFESENILGSPNAKFLOHIQSANF
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                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human; disease detection and treatment molecule polypeptide;
                                                                                                    33 EVVKLLVSHGAEVTCKDKKSYTPLHAAASSGMISVVKYLL-------3
                                Indels 131;
   Length 899;
8.9%; Score 382.5; DB 8;
25.8%; Pred. No. 1.7e-20;
ive 91; Mismatches 246;
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                                  163; Conservative
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                  Similarity
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Best Local
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WO200279449-A2

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This invention describes a novel disease detection and treatment molecule polypeptide (MDDT) which has anti-inflammatory, immunosuppressive, coreopathic, cytostatic, anti-HIV, haemostatic, nephrotropic.

Contemporation antipsoriatic and hepatotropic activity. The polymucleotides antianaemac, antipsoriatic and hepatotropic activity. The polymucleotides and the polypeptides of the invention can be used for gene therapy, conditions. These polypeptides or polymucleotides are diseases or conditions. These polypeptides or polymucleotides are proliferative disorders (e.g. cancers including adenocarcinoma, conditions melanoma, myeloma or sarcoma), anaemia, Crohn's disease, acquired immunodeficiency syndrome (AIDS), Goodpasture's cyndisease, acquired immunodeficiency syndrome (AIDS), Goodpasture's cyndisease, acquired inmunodeficiency syndrome (AIDS), Goodpasture's cyndisease, acquilised including adenocarcinoma, apprinted to the sequence data for this patent did not form part of the printed cyntic specification, but was obtained in electronic format from WIPO at the wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              518 --GSAKPNIKGEDTVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRA 575
                                                                                                                                                                                                                                                                                                                                                                                                                                         New purified disease detection and treatment molecule proteins and polymuclectides, useful for diagnosing, treating or preventing cancers (e.g. leukemia or sarcoma), anemia, Crohn's disease, AIDS, osteoporosis or hepatitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68 PLHVAA-HCGHHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     289 PLHHAAKNCTGDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DFGLVDGDGKNPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT
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                                                                                                                                                                                                                                                                           l CR, Gietzen D, Chinn J;
Lason O, Yap PE, Amshey SR;
Juyen DA, Kleefeld Y, Gerstin I
Chen AJ, Panzer SR, Harris B;
KY, Urashka ME;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 27; SEQ ID NO 470; 339pp + Sequence Listing; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tch al Similarity 27.7%; Pred. No. 4e-20; 156; Conservative 84; Mismatches 20
                                                                                                                                                                                                                                                                                             Dufour GE, Hillman JL, Yu JY, Tuason
Daugherty SC, Dam TC, Liu TF, Nguyen
Peralta CH, David MH, Lewis SA, Chen
Flores V, Marwaha R, Lo A, Lan RY, U
                                                                                                                                                                                                                                                                                  Dahl CR,
                                                                2001US-0279619P.
2001US-0280067P.
2001US-0280068P.
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2001US-0299428P.
2001US-0299776P.
                                                                                                                     2001US-0291280P.
2001US-0291829P.
                               27-MAR-2002; 2002WO-US009944
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19-JUN-2001;
20-JUN-2001;
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Daugherty SC,
                                                                                                     29-MAR-2001;
16-MAY-2001;
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29-MAR-2001;
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10-OCT-2002
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                                                                                                                                         Query Match
Best Local Similarity ....
These 175; Conservative
                                                                                                                         Sequence 4274 AA;
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                                                                                                                      692 CLRGDNEVVRGLVGQHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCE 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) are useful for treating disorders
                                 631
                                                                            691
                                                                                                                                   AQEGHVPVADVLI-KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAK 457
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           314
                                              632 KDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLA
                                ALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP----ARRGIVSSNHNVM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated polynuclectide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                       1) chrdmosome mapping; gene mapping; gene therapy, forensic; supplement; medical imaging; diagnostic; genetic disorder.
 283 LERDAHPNAAGKN------GLTPLHVAVHHNNLDIVKL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 20; SEQ ID NO 31331; 103pp; English.
                                                                                                                                                                                                                 L'--LDRGADINLDGDHNILFDQ 829
                                                                                                                                                                                                                                                                                                                                                                Novel human diagnostic protein #963.
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                                                                                                                                                                                                                              513 LKVVTDETSFVLVSDKHRMSFPE
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2000US-00649167
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N-PSDB; AAS65159.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (HYSE-) HYSEQ INC
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; Pred. No. 4.8e-19;
92; Mismatches 277; Indels 141;
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360 LLQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLDKKANP-----NAKALNGFTPLH 412
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human; oligo-capping method; diagnostic marker; gene therapy; osteoporosis; neurological disease; Alzheimer's disease; Parkinson's disease; dementia; short memory; cancer; sense or motor function; emotional reaction; fear response; panic; osteopathic; neuroprotective; nootropic; antiparkinsonian; cytostatic; tranquiliser.
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                                              YAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQD
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                                                                                                                                 VNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
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Nagai K, 1
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A, Ishii S,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PGN) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed cerivity of an estimate therapy techniques to restore normal cerivity of (II) at to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a useful for generating antibodies against it, detecting or quantitating or polypoptide in tissue, as molecular weight markkers and as a food supplement. (II) and its binding partners are useful for treating disorders of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations capposible for generate or other traits to assess blodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human diagnostic maino acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at the sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                204 TKGKVRLPALHIAARKDD-----TKAAALLLQNDNNADVESKSGFT-PLHIAAHYGNIN 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAH 401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          184 TSGPVRDIADRIVASKGDLSEDQVEEILDIIFWNES----EIAEGISNPLH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                     Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8.8%; Score 377.5; DB 4; Length 4386; 25.5%; Pred. No. 5e-19; Live 92; Mismatches 277; Indels 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 20; SEQ ID NO 37734; 103pp; English.
                           human diagnostic protein #7366.
                                                                                                                                                                                                                                                                                                                                                                                                                             Tang YT;
                                                                                                                                                                                                                                                                                                              31-MAR-2000; 2000US-00540217.
23-AUG-2000; 2000US-00649167.
                                                                                                                                                                                                                                                                       30-MAR-2001; 2001WO-US008631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 25.5 Matches 175; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001-639362/73.
                                                                                                                                                                                                                                                                                                                                                                                                                          Liu C,
                                                                                                                                                                                                                                                                                                                                                                                 (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-639362/
N-PSDB; AAS71562.
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                                                                                                                                                                                 WO200175067-A2.
                                                                                                                                        sapiens.
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                           Novel
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This invention relates to novel, isolated full length human cDNA molecules and the encoded proteins thereof. Specifically, it refers to cDNA cloned obtained by an oligo-capping method, where none of these clones are identical to any known human mENAS. The present invention describes an immunoassay to identify agonists and antagonists, as well as cartibodies, antisense molecules and siRNAs that can all be used to bind to and modulate expression of the GDNA molecules. As such, these controlled ideases or morbid states. In particular, they are useful in gene therapy for treating osteoporosis, neurological disease, Alzheimer's disease, Parkinson's disease, dementia, short memory and various cancers, as well as for maintening equilibrium of sense or motor function, and for meaning emotional reaction, fear response and panic. Accordingly, they exhibit osteopathic, neuroprotective, nootropic, antiparkinsonian, cytostatic and tranquiliser activities. This polypeptide is a protein cencoded by a full length human cDNA sequence of the invention NOTE: This sequence is not given in the sequence listing of the specification but considered to a specification but considered to the specification of the specification but considered to the specification of the specification of the specifi 1; SEQ ID NO 2255; 2686pp; English. can be office.

Sequence 687 AA;

179 468 640 72 VEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPP----IVQDSNLYSSI-GGVPQ 126 289 232 528 144 ...---NVSDRAGRTA 176 GLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNA 409 397 584 TAKRGI-----HGMFPLHLAALSGFSD---CCRKLLSSGFDIDTPDDFGRTCLHAAAAGG 449 DVVV-NELIDCGAIVNQKNEKGFTPLHFAAASTHGALCLELLVGNGADVNMKSKDGKTPL 343 ------LPSERGYNAMQVAALFGDKEAVKMLAKS 671 22 86 :|: || | LEEVEDESPAFISK-------LPQENKSLHSPPSGNVLVRYPSLVQAIFNGDPD HADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLP LHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDF HIAVEGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGED EAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKE------EV-------RALIFK----KEDVNFQDNEKRTPLHAA--AYLGDAEIIELLILSGA -----EWLTTSGPVRDIADRIVASKGDLSEDQVEBILDIIFMNESEIAEGISN---PL 177 LHHAAFSGHGEMVKLLLSRGAN--INAFDKKDRRAIHWAAYMGHIEVVKL--LVSHGAEV TVAKSLIMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMODRSGG DLTLFNMLKASGADLNVRNVVGRAPIH-VASSNGKANAVSGLVSCGIDVNSQDVNGDTPL 585 ELVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILN---FVGD-Gaps Indels 187; Length 687; Query Match
8.7%; Score 373.5; DB 8;
Best Local Similarity 24.0%; Pred. No. 5.9e-20;
Matches 190; Conservative 115; Mismatches 299; 145 HIAAANKAVKCAEALVPLLSNV-----------BTH----ż 127 230 σ 99 180 290 350 233 410 469 344 529 398 641 ò 셤 ð ઠે 셤 셤 음 셤 ઠે 용 ઠે 원 Š ò 셤 ò 8 셤 à 셤 ð

617 9/9 Human; structural and cytoskeleton-associated protein; SCAP; leukaemia; cell proliferative disorder; actinic keratosis; cancer; gastroenteritis; cirrhosis; soriasis; adenocarcinoma; Creutzfeldt-Jakob disease; stroke; sarcoma; neurological disorder; epilepsy; sassonal affective disorder; Huntington's disease; Alzheimer's disease; lymphoma; melanoma; myeloma; arniety; schizophrenia; amnesia; viral inffection; pneumonia; influenza; arteriosclerosis; smallpox; Colorado tick fever; rabies; gene therapy; neuroprotective; nootropic; neuroleptic; cytostatic; virucide. TPLDLAAFKGHVECVD-VLINGGASILVKDYILKRTPIHAAATNGHSECLRLLIGNAEPQ 560 ETPLDVLMETSGTDMLSDSDNRATISPLHLAAYHGHHQALEVLV-QSLLDLDVRNSSGR-TVLHYAISKGDSFLVQKILAHTGVDVNCENN-LGQTPLHLAVEGGDPKIVSSLLKAGAVV Human structural and cytoskeleton-associated protein (SCAP) #18. 867. .874 /note= "ATP/GP-binding site motif AAE33684 standard; protein; 1056 AA. Location/Qualifiers 08-JUN-2001; 2001US-029667BP. 15-JUN-2001; 2001US-0298664P. 21-JUN-2001; 2001US-0300149P. 29-JUN-2001; 2001US-0302340P. 06-JUL-2001; 2001US-0303481P. 12-JUL-2001; 2001US-030559P. 21-DEC-2001; 2001US-0343557P. 2001US-0296865P 06-JUN-2002; 2002WO-US017956 (INCY-) INCYTE GENOMICS INC. (first entry) 787 677 NAVDIQDGNGQ 687 NRL---DDNGR WO2002101009-A2 Key Binding-site 07-JUN-2001; sapiens 16-APR-2003 19-DEC-2002. 780 1 618 721 Ношо AAE33684 셤 Š 셤 ò

AJA; New human structural and cytoskeleton-associated proteins and genes, useful for diagnosing or treating cancers (e.g. leukemia or lymphoma) viral infections (e.g. influenza) or neurological disorders (e.g. Warren BA, Honchell CD, Richardson TW, Elliott VS; Yue H, Batra S, Griffin JA, Baughn MR, Forsythe IJ; , Emerling BM, Sanjanwala MM, Khan FA, Lu DAM, Hafalia ,, Yang J, Li JX, Becha SD, Yao MG, Gietzen KJ, Luo W; 3, Yang J, Li JX, l Ison CH, Lasek AKW; WPI; 2003-148791/14. or stroke) N-PSDB; AAD51581. Tang TY, Wa Walia NK, Y Burford N, Nguyen DB, Lee EA,

Claim 1; Col 195-198; 121pp; English.

DERGCTPLHYAATSDTDGKCLEYLLRNDANPGVRDKQGYNAVHYSAAYGHRLCLQLIA-S 559

The invention relates to human structural and cytoskeleton-associated proteins (SCAP) and genes. SCAP sequence and agonist are useful for

treating a disease or condition associated with decreased expression of functional SCAP. The antagonist is useful for treating a disease or condition associated with over expression of functional SCAP. The antibody that specifically binds to the polypeptide is useful for diagnosing a condition or disease associated with the expression of SCAP. SCAP sequence, agonists and antagonists are particularly useful for diagnosing, treating or preventing cell proliferative disorders (e.g. actinic keratosis, arteriosclerosis, cirrhosis, psoriasis, or cancers including adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma), neurological disorders (e.g. cincluding adenocarcinoma, leukaemia, lymphoma, melanoma, myeloma or sarcoma), horbod disease, schizophrenia or amnesia) or viral infections (e.g. pneumonia, herpes, influenza, Colorado tick fever, smallpox, rabies or gastroenteritis). SCAP DNA is also used in gene therapy. The present

Sequence 1056 AA

Gaps Indels 227; Length 1056; Query Match
8.7%; Score 373.5; DB 6;
Best Local Similarity 23.9%; Pred. No. 1.1e-19;
Matches 198; Conservative 101; Mismatches 303;

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셤 ઠે --LC---MEKTKTDFIDTANFANQ---- 322 213 AASNGQINVVKHLLNLGVEIDEINVYGNTALHIACYNGQDAVVNELIDYGANVNQPNNNG 272 AAKNCTGDKLK-293

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-SPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDH--- 378 323

ASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSVQNND 497

438 GRTPLHYAAANCHFHCIETLVTTGANVNETD------DW-GRTALHYAAASDMDRNK 487 GVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVAG-----498

---GGSRDTFRVVRKNYEKCHDLATIRAAL-------MQDRSGGELVN----LG 590 TILGNAHDN----SBELERARELKEKBATLCLEFLLQNDANPSIRDKEGYNSIHYAAAYG 551 488 591 DFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGY 650

573 651 NAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGID 710 HROCLELL-----LERTNSGFEESDSGATKS-------PLHL-----

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INORMGSDKNTVLHYAISKGDSFLVQKIL--AHTGVDVNCENNLGOTPLHLAVEGGDPKI

817 769 VSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADI 8 g

completed: February 26, 2005, 18:50:50 Job time : 180 secs Search

33, Appl 33, Appl 10, Appl 2, Appli 2, Appli 2, Appli 2, Appli 334, App 378, App 378, App 378, App 378, App

Title: Perfect score:

Sequence:

protein

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Run on:

88

Minimum Maximum Database

No.

Result

Searched:

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APPLICANT: Walker, David H.
APPLICANT: Walker, David H.
APPLICANT: McBride, Jere W.
TITLE OF INVENTION: P43 Antigen for the Immunodiagnosis of Canine Ehrlichiosis and FILE REPERBNCE: D6325
CURRENT APPLICATION NUMBER: US/09/561,322
CURRENT APPLICATION NUMBER: US/09/561,322
SEQ ID NOS: 12
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KLKLCMEKTKTDFIDTANPANQSPLHIITQKPDCSVLDIEBEPTSRNLDFGLVDGDGKNPL 360
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PSGDIQDQSQQDQQEQDQQQQQAQAGASPIERERVAAPESEDLYTVIIPKGKRTAAPI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LERKSPTPEPKVEDDEDLPPTLPPRTFSGEGYDDVGVSMPTVSRGIYQPPIVQDSNLYSS
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99.7%; Pred. No. 7.4e-161;
iive 0; Mismatches 1;
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US-09-392-812A-2
US-09-031-485-33
US-09-065-474-33
US-09-065-474-33
US-09-196-33
US-09-196-387-10
US-09-196-387-2
US-09-196-387-2
US-09-196-387-2
US-09-196-387-2
US-09-196-387-2
US-09-196-387-3
US-09-509-802-2
US-09-182-2334-4
US-09-132-2816-334
US-09-352-616A-378
US-09-655-166A-378
US-09-655-166A-378
US-09-655-166A-378
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Matches 373; Conservative
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Sequence 6966, Ap
Sequence 5876, Ap
Sequence 9010, Ap
Sequence 9011, Ap
Sequence 9012, Ap
Sequence 9012, Ap
Sequence 9013, Ap
Sequence 9013, Ap
Sequence 9015, Ap
Sequence 9015, Ap
Sequence 6978, Ap
Sequence 6978, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 7659, Ap
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Sequence 3
Sequence 3
Sequence 6
Sequence 7
Sequence 7
Sequence 7
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4310
1 PSGDIQDQSQQDQQEQDQQQ.....DRGADINLDGDHNILFDQCL
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2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                  5.1.6
Compugen Ltd.
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US-09-949-016-6966
US-09-949-016-6964
US-09-949-016-5876
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US-09-949-016-9011
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US-09-949-016-7659
US-09-949-016-7659
US-09-949-016-7659
US-09-940-108-3
                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
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                  GenCore version (c) 1993 - 2005
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Maximum Match 100%
Listing first 45 summaries
                                                                                        sw model
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Gapop 10.0 , Gapext 0.5
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seq length: 200000000
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Sequence 6964, Application US/09949016

gequence 6964, Application US/09949016

general No. 681233

GENERAL INPORMATION:

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT PILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR PILING DATE: 2000-10-20

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
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Similarity 26.0%;
                                                                   821 GDHNILFDQ 829
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; ORGANISM: Human
US-09-949-016-6964
                                                                                                                                                                                    RESULT 3
US-09-949-016-6964
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JAPELICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE REFERENCE: CLOOL1307

CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT FILING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR APPLICATION NUMBER: 60/231,768

PRIOR APPLICATION NUMBER: 60/231,498

PRIOR PELING DATE: 2000-10-03

PRIOR PELING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 6966

LENGTH: 1719
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507 LHĮAAREGHVETVLALL-EKEASQACMTKKGFTPLHVAAKYGKVRVAELLLERDAHPNAA 565
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           408 NADLILFNMLKASGADLNVRNVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 9.1%; Score 390.5; DB 4; Best Local Similarity 26.0%; Pred. No. 4.9e-24; Matches 174; Conservative 100; Mismatches 246;
                                                                                                              Sequence 6966, Application US/09949016
Patent No. 6812339
GENERAL INFORMATION:
    376 HHAVEHLPPVNLKG 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Human
US-09-949-016-6966
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APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REPERENCE: CLOOL307
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: US/09/949,016
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-30
PRIOR FILING DATE: 2000-10-30
PRIOR FILING DATE: 2000-10-30
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FASISEQ for Windows Version 4.0
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                                                                                    OHG--IDINORMGSDKWTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG
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Matches 174; Conservative 100; Mismatches 246; Indels
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ORGANISM: Human
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APPLICANT: VARYER, J. Craig et al.
APPLICANT: VARYER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
CURRENT APPLICATION NUMBER: 60/241,755
RIOR FILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR FILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-10-03
PRIOR PILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
SERIOR FILING DATE: 2000-10-03
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QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                  KHGVMVDATTRMG---YTPLHVASHYGNIKLVKFLLQHQ-ADVNAKTKLGYSPLHQAAQQ 744
                                                                                                                                        GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
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Matches 174; Conservative 100; Mismatches 246; Indels 149; Gaps
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Pred. No. 5.7e-24;
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Best Local Similarity 26.0%;
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us-10-701-038-2.rai

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GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001307
CURRENT APPLICATION NUMBER: 60/241,755
PRIOR FILING DATE: 2000-04-14
PRIOR FILING DATE: 2000-10-20
PRIOR PLICATION NUMBER: 60/231,768
PRIOR PLING DATE: 2000-10-03
PRIOR PLING DATE: 2000-10-03
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645
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                                                                                                                                                                                                                                                                                   | : | | | | | : | | | SVQGVTPLHLAAQEGHAEMVALLL--SKQANGNLGNKSGLTPLHLVAQEGHVPVADVL1- 691
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         304 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 352
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                                                                                                                                                                                                                                                           SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG
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                                                                   GEDTVAKSLLMEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATIRAALMQDRSGGE
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                                                                                                                569 GKN------GLTPLHVAVHHNNLDIVKL--
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; Patent No. 6812339
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US-09-949-016-9011
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Best Local S:
Matches 174
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TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
FILE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
CURRENT APPLICATION NUMBER: US/09/949,016

CURRENT FILING DATE: 2000-04-14

PRIOR PILING DATE: 2000-10-20

PRIOR PILING DATE: 2000-10-03

PRIOR PELICATION NUMBER: G6/231,498

PRIOR PELING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FESTSEQ for Windows Version 4.0

SEQ ID NO 9010

LENGTH: 1883:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      409 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK 463
                                               586 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
                                                                                                                                          646 SERGYNAMQVAALFGDKEAVKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVG 705
                                                                                                                                                                       QHG--IDINQRMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEG 763
                                                                                                                                                                                                                                                                764 GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
                                                                                                                                                                                                                                                                                                                                                        194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---- 241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP 467
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                                                                               149; Gaps
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9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246;
  -----GLTPLHVAVHHNNLDIVKL-
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Patent No. 6812339
GENERAL INFORMATION:
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                                                                                             588 LLPRG-
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                                                                                                  358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                    409 TPLHVASFMGHLPIVKNLLQRGASPNVSNVK----VETPLHMAARAGHTEVAKYLLQNK
                                                                               108 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
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803 DKHRMSFPE 811
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GENERAL INPORMATION:
GENERAL INPORMATION:
GENERAL INPORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT FILING DATE: 2000-04-14
FRIOR FILING DATE: 2000-10-20
FRIOR PAPLICATION NUMBER: 60/231,768
FRIOR APPLICATION NUMBER: 60/231,498
FRIOR APPLICATION NUMBER: 60/231,498
FRIOR APPLICATION NUMBER: 60/231,498
FRIOR APPLICATION NUMBER: 60/231,498
FRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SEQ ID NO 9012
                                                               LHIAVEGGSMETVLAVLNQRGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNIK 525
                                                                                 GDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKL---LDRGADINLD 820
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                                                                                                                                                                                       LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP 645
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                                                                                                                                                                                                                                                        646 SERGYNAMOVAALFGDKEAVKMLAKSAKPSDLNPKTSATPTPLNLACLRGDNEVVRGLVG 705
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Best Local Similarity
Matches 174; Conserv
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US-09-949-016-9012
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Sequence :9015, Application US/09949016
; Sequence :9015, Application US/09949016
; Patent No. GB12339
; FARENT NO. GB1239
; TITLE OF INVENTION: POLYNORPHISMS IN KNOWN GENES ASSOCIATED
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
; FILE REFERENCE: CL001307
; CURRENT APPLICATION NUMBER: 05/241,755
PRIOR FILING DATE: 2000-10-20
; PRIOR FILING DATE: 2000-10-20
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-10-03
; PRIOR FILING DATE: 2000-09-08
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                  -----TPLHCAARNGHVRISEILLDHGAPIQA 303
                                                                                                       358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEPQDLVNDPDYF----GNT-IAHYAVKNK
                                                                        --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9015
LENGTH: 1883
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RLLLDRGAQIETKTKDEL-----
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; ORGANISM: Human
US-09-949-016-9015
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Fatent No. 6812339
GENERAL INFORMATION:
FAREAL INFORMATION:
FOUNDATION:
FILE OF INVENTION:
FILE REFERENCE:
CURRENT APPLICATION NUMBER: US/09/949,016
CURRENT APPLICATION NUMBER: 60/241,755
FRIOR FILING DATE: 2000-10-20
FRIOR APPLICATION NUMBER: 60/231,768
FRIOR FILING DATE: 2000-10-03
FRIOR FILING DATE: 2000-09-08
FRIOR FILING DATE: 2000-09-08
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---TLD---HLTPLHVAAHCG 352
                                              299 GDKL-KLCMEKTKTDFIDTANFANGSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
                                                                                                                                                 358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
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                                                                                               353 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL
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9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246;
304 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI---
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US-09-949-016-9014
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US-09-949-016-9014
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Sequence 9017, Application US/09949016

Patent No. 6812339
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
TILE REPERENCE: CL00130.
CURRENT APPLICATION NUMBER: 05/241,755
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR FILING DATE: 2000-10-20
PRIOR FILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-10-03
                                                                                                                                                                                                                                                                  304 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDABIDDI-----TLD---HLTPLHVAAHCG 352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :: |: :: | :: | | :| | :| | :| | | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :
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                                                                                                                                                                                   149;
                                                                                                                              Length 1883;
                                                                                                                                                                                Indels
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                                                                                                                            Query Match 9:1%; Score 390.5; DB 4; Best Local Similarity 26.0%; Pred. No. 5.7e-24; Matches 174; Conservative 100; Mismatches 246;
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Patent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: 00/09/49,016

CURRENT FILING DATE: 2000-00-14

PRIOR FILING DATE: 2000-10-20

PRIOR PILING DATE: 2000-10-03

PRIOR PILING DATE: 2000-00-08

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SEQ ID NO 9016
                                                    31;
                                                                                                                                                                                                                                     194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-----GA---- 241
                                                                                                                              - KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
                                                                                                                                                                                                                                                                                                                                          358 NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVRNK 407
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                                                       Gaps
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9.1%; Score 390.5; DB 4; Length 1883; 26.0%; Pred. No. 5.7e-24;
                                                  Indels
                                               Mismatches 246;
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Patent No. 6812339
GENERAL INFORMATION:
APPLICANT: VENTER, J. Craig et al.
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CLOOL307
CURRENT APPLICATION NUMBER: US/09/949,016
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    304 KTKNGLSPIHWAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 352
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9.1%; Score 390.5; DB 4;
Best Local Similarity 26.0%; Pred. No. 5.7e-24;
Matches 174; Conservative 100; Mismatches 246;
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9017
LENGTH: 1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       821 GDHNILFDQ 829
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US-09-949-016-9017
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US-09-949-016-6978
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 4377;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8.8%; Score 377.5; DB 4;
25.5%; Pred. No. 3e-22;
rative 92; Mismatches 277;
CURRENT FILING DATE: 2000-04-14
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR PILING DATE: 2000-10-20
PRIOR PELING DATE: 2000-10-30
PRIOR PELING DATE: 2000-10-03
PRIOR APPLICATION NUMBER: 60/231,498
PRIOR FILING DATE: 2000-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE: FastSEQ for Windows Version 4.0
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; Sequence 38, Application US/10164595
; Patent No. 6657054
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 25.5%
Matches 175; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: mumar
US-09-949-016-6978
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      391 DPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVGRAPIH-VASSNGKANAVSG 449
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APPLICANT: OriGene Technologies, Inc
TITLE OF INVENTION: Regulated Angiogenesis Genes and Polypeptides
FILE REFERENCE: 1U 103 R1.
CURRENT APPLICATION WUBER: US/10/164,595
CURRENT FILING DATE: 2002-06-10
NUMBER OF SEQ ID NOS: 80
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 8.6%; Score 370.5; DB 4; Length 994; Best Local Similarity 22.9%; Pred. No. 1.1e-22; Matches 191; Conservative 114; Mismatches 311; Indels 217;
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; ORGANISM: Homo sapiens
US-10-164-595-38
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Search completed: February 26, 2005, 18:55:45 Job time : 50 secs

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                                            GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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Maximum Match 100%
Listing first 45 summaries
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SUMMARIES

Description	Sequence 2, Appli	Sequence 1, Appli	Sequence 343, App	Sequence 343, App	Sequence 18, Appl	Sequence 3237, Ap	Sequence 4, Appli	Sequence 4122, Ap	Sequence 6, Appli	Sequence 22, Appl	Sequence 117, App	Sequence 20, Appl	Sequence 43, Appl
ΩI	US-10-701-038-2	US-10-701-038-1	US-10-291-172-343	US-10-221-278-343	US-10-479-764-18	US-10-108-260A-3237	US-10-369-978-4	US-10-108-260A-4122	US-10-369-978-6	US-10-479-764-22	US-10-205-194-117	US-10-433-794-20	US-09-964-899-43
DB	16	16	15	15	17	15	14	15	14	17	14	15	σ
% Query Match Length DB	831	831	1053	1053	1056	1330	1619	919	1709	1094	1762	720	1724
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Score	4310	1300.5	421	421	373.5	368.5	368	364.5	351	350	345.5	344	343
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121 IGGVPQEAQYDAAARAGGPRKFLYGPYTFSNGQEIMDFEFDTPWPDVRNAVLGNKEIKEE 180

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Sequence Sequence	Sequence 3 Sequence 3 Sequence 4 Sequence 5 Sequence 5 Sequence 7 Sequence 7 Sequence 7 Sequence 7 Sequence 7	for the Immunodiagnosis of chioses and Uses Thereof	100.0%; Score 4310; DB 16; Length 831; imilarity 100.0%; Pred. No. 3.6e-298; Conservative 0; Mismatches 0; Indels 0; Gaps 0; PSGDIQDQSQQDQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ
5 US-10-182-243-56 4 US-10-479-764-1 4 US-10-128-174-34 4 US-10-128-174-34 4 US-10-128-174-36 4 US-10-128-174-36 4 US-10-128-174-39 4 US-10-128-174-40 4 US-10-128-174-41 4 US-10-128-174-41 4 US-10-128-174-41 4 US-10-128-174-41 5 US-10-128-174-41 6 US-10-128-174-41 7 US-10-128-174-41 8 US-10-128-174-41 9 US-10-128-174-41 9 US-10-128-174-41 9 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 1 US-10-128-174-41 4 US-10-128-174-41 5 US-10-128-17-18-18-18-18-18-18-18-18-18-18-18-18-18-	S US-10-648-512- 5 US-10-648-512- 5 US-10-648-512- 5 US-10-648-512- 5 US-10-648-512- 6 US-10-648-512- 6 US-10-648-512- 6 US-10-648-512- 6 US-10-648-512- 6 US-10-648-512- 6 US-10-648-512- 6 US-10-648-513- 7 US-10-648-513- 7 US-10-648-513- 8 US-10-648-513- 7 US-10-648-513- 8 US-10-648-513-	Antigens man Ehrli 701,038 3,573 surface	7; Score 4310; I 7; Pred. No. 3.66 0; Mismatches 0QGAVGGAVGASPIERI
7.6 1250 17.6 12.6 12.6 12.6 12.6 12.6 12.6 12.6 12	3.3 9966 1.2 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	101-038-2 once 2. Application US/10701038 cation No. US20040121433A1 AL INFORMATION: ICANT: MCBTAGE, Jere W. ICANT: MAIRER, David H. B. E OF INVENTION: P153 and P156. E OF INVENTION: Canine and Hu REFERENCE: D6481 ENT APPLICATION NUMBER: US/10/ ENT APPLICATION NUMBER: US 60/42 ENT APPLICATION NUMBER: US 60/42 ENT APPLICATION NUMBER: US 60/42 ENT PILING DAME: 2002-11-04 EN OF SEQ ID NOS: 2 D NO 2 D NO 2 EN PITTH SIL E: PRT ANISM: ENTICHIA CHAffeensis IURE: ANISM: ENTICHIA CHAffeensis IURE: EN INFORMATION: immunoreactive 01-038-2	100.0% Conservative DIODOSODODODO DIODOSODODODO SPIQUESONO DIODOSODODODO SETUPOSONO DIODOSODODODO SETUPOSONO DIODOSODODO SETUPOSONO DIODOSO SETUPOSONO SET
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RESULT 3
US-10-291-172-343
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HHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKAS
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Pred. No. 1e-83;
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ORGANISM: Ehrlichia canis
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Best Local Similarity
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US-10-701-038-1
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TITLE OF INVENTION: No. US20030228584Alel Nucleic Acids and Polypeptides
FILE REFERENCE: 21272-045
CURRENY APPLICATION NUMBER: US/10/291,172
CURRENT FILING DATE: 2000-11-08
PRIOR PILING DATE: 2000-10-20
PRIOR APPLICATION NUMBER: 09/665,363
PRIOR PILING DATE: 2000-09-19
                                                                                                                                 66 IYQGIPGHQEEMEEDPYASLDQVSQGAGADGIQENPVPQEAGEELEEDIYQDPADFQGIG
                                                                                                                                                                                                     481 LAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYK
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 265;
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Publication No. US20030228584A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49 AYLGDAEIIELLILSGARVNAKDSKWLT---PLH----RAVASCS-----EEAVQVLL 94
                                                                                                                                                                                                                                                                                                                                                                                                              333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP
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                                                                                                                                                                                                      Length 1053
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9.8%; Score 421; DB 15; 1
Best Local Similarity 25.2%; Pred. No. 7e-21;
Matches 189; Conservative 101; Migmatches 269;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: .09/616,847
PRIOR FILING DATE: 2000-07-14
PRIOR APPLICATION NUMBER: 09/596,193
PRIOR FILING DATE: 2000-06-17
PRIOR FILING DATE: 2000-05-19
PRIOR PILING DATE: 2000-05-19
PRIOR APPLICATION NUMBER: 09/519,705
PRIOR PILING DATE: 2000-05-19
SRIOR PILING DATE: 2000-05-19
SRIOR PILING DATE: 2000-03-07
SEQ ID NO 343
LENGTH: 1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VGQHGIDINQRMGSD-----
                                                                                                                                                 ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-291-172-343
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RESULT 4

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GENERAL INFORMATION:

JENERAL INFORMATION:

TITLE OF INVENTION: No. US20040034208Alel Nucleic Acids and Polypeptides
FILE REFERENCE: 21272-045

CURRENT APPLICATION NUMBER: US/10/21,278

CURRENT APPLICATION NUMBER: US/09-06

PRIOR APPLICATION NUMBER: 09/693,267

PRIOR APPLICATION NUMBER: 09/665,363

PRIOR FILING DATE: 2000-10-20

PRIOR PRIOR PELING DATE: 2000-09-19

PRIOR FILING DATE: 2000-09-19

PRIOR FILING DATE: 2000-06-17

PRIOR PILING DATE: 2000-06-17

PRIOR PILING DATE: 2000-06-17

PRIOR PILING DATE: 2000-06-17

PRIOR PILING DATE: 2000-06-17

PRIOR APPLICATION NUMBER: 09/596,193

PRIOR PILING DATE: 2000-06-19

PRIOR APPLICATION NUMBER: 09/594,454

PRIOR PILING DATE: 2000-06-19

PRIOR APPLICATION NUMBER: 09/519,705

PRIOR APPLICATION NUMBER: 09/519,705

PRIOR APPLICATION NUMBER: 09/519,705

NUMBER OF SEQ ID NOS: 752

TENTALL 105-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEG 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     333 DCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP 392
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |:: | : | : | : | : | 185 HIEVVKL--LVSHGAEVTCKDKKSYTPPLHAAAS-----SGMISVVKYLLDLGVDMNEP
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9.8%; Score 421; DB 15; Length 1053;
Best Local Similarity 25.2%; Pred. No. 7e-21;
Matches 189; Conservative 101; Mismatches 269; Indels 190;
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   Application US/10221278
b. US20040034208A1
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ORGANISM: Homo sapiens
Sequence 343, Applica
Publication No. US20
GENERAL INFORMATION:
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                                                                                                        VE-----NDEGDLGANAY------NVLDSEGNLPLHH 292
                                                                                                                                                                                                                      153 VEMVNLLLAKGANINAFDKKDRRALHWAAYMGHLDVVALLINHGAEVTCKDKKGYTPLHA 212
                                                                                                                                                                                                                                                                                                                    213 AASNGOINVVKHLLINLGVEIDEINVYGNTALHIACYNGODAVVNELIDYGANVNOPNNNG 272
                                                                                                                                                                                                                                                                                                                                                                    -SPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVILKGVMDH--- 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              325 LIQNGGEIDCVDKD----GNTPLHVARYGHE--LLINTLITSGADTAKCGIHSMFPLHL 378
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               273 FTPLHPAAASTH-GALCLELLVNNGADVNIQSKDGKSPLHMTAVH------GRFTRSQT 324
--AFLGDABIIELLILSGARVNAKDNWWLT---PLH----RAVASRS------EEAVQV 92
                                                                         214 IFMNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIV---KAL-GE
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25.1%; Pred. No. 5.5e-17;
ive 87; Mismatches 262; Indels 183; Gaps
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Publication No. US20040005560A1
GENERAL INFORMATION:
APPLICANT: HELIX RESEARCH INSTITUTE
TITLE OF INVENTION: NO. US20040005560A1e1 full length cDNA
FILE REFERENCE: H1-A0106
CURRENT APLICATION NUMBER: US/10/108,260A
CURRENT FILING DATE: 2002-03-27
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PATENTIN Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---GGSRDTFRVVRKNYEKCHDLATIRAAL--
                                                                                                                                                                                                                                                                           293 AAKNCTGDKLK------
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Best Local Similarity 25.1
Matches 178; Conservative
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US-10-108-260A-3237
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US-10-108-260A-3237
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  731 DSFLVQKILAH----TGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNG 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   168 RNAVLGNKEIKE------EWLTTSGPVRDIADRIVASKGDLSEDQVEEILDI 213
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                                                                                                        629 HSECLRILIGNAEPQNAVDIQDGN--GQTPLMLSVLNGHTDCVYSLLNKGANVDAKDKWG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: STRUCTURAL AND CYTOSKELETON-ASSOCIATED PROTEINS THE REFERENCE: PF-1007 USN CURRENT APPLICATION NUMBER: US/10/479,764 CURRENT FILING DATE: 2003-12-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
8.7%; Score 373.5; DB 17; Length 1056;
Best Local Similarity 23.9%; Pred. No. 1.7e-17;
Matches 198; Conservative 101; Mismatches 303; Indels 227;
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: TANG.

APPLICANT: TANG.

APPLICANT: HONCHELL, Cynthia D.; RICHARDSON, Thomas M.;

APPLICANT: HONCHELL, Cynthia D.; RICHARDSON, Thomas M.;

APPLICANT: ELLIOTT, Vicki S.; CHAWLA, Narinder K.;

APPLICANT: GALFFIN, Jennifer A.; BAUGHN, Mariah R.;

APPLICANT: FORSYTHE, Ian J.; BURFORD, Neil;

APPLICANT: KHAN, Farrah A.; LU, Dyung Aina M.;

APPLICANT: KHAN, Farrah A.; LU, Dyung Aina M.;

APPLICANT: ARAN, Farrah A.; LU, Dyung Aina M.;

APPLICANT: MANG, Junming; LI, Joana X.;

APPLICANT: BECHA, Shanya D.; YAO, Monique G.;

APPLICANT: LEE, Ernestine A.; ISON, Craig H.;

APPLICANT: LASEK, AMY W.
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                                                                                                                                                                          787 RSVLSSAIVPGRKEKGVLGIVNKLLDRGA 815
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PRIOR APPLICATION NUMBER: PCT/US02/17956
PRIOR PLILING DATE: 2003-6-06
PRIOR PLILING DATE: 2001-06-06
PRIOR PELING DATE: 2001-06-07
PRIOR PELING DATE: 2001-06-08
PRIOR PLING DATE: 2001-06-08
PRIOR PLING DATE: 2001-06-15
PRIOR PLING DATE: 2001-06-15
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PRIOR PLING DATE: 2001-06-15
PRIOR PELING DATE: 2001-06-29
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; OTHER INFORMATION: Incyte ID No: 489786CD1
US-10-479-764-18
                                                                                                                                                                                                                                                                                                                                             Sequence 18, Application US/10479764
Publication No. US20050027103A1
GENERAL INFORMATION:
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LENGTH: 1056
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-FTSRNLDFGL-VDGDGKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDYFGNTI 399
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KDILNFVGDSLHLP-----SERGYNAM-----QVAALFGDKEAVKMLAKSA 672
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                                                                                                                                                                                                                                                                                                                                                                                                           225 ISNPLHADVDNNPVKGAKNVMT-LMHLVYAC-DVDPRIVKALGEVENDEGDLGANAYNVL 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283 DSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE- 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AHYAVKNKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNS 459
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VETLIGFGADVHVRGGKLRET-----PLHIAARVKDGDRCALMLLKSGASPNLTTD 500
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .-----KPSD----LNFKTSATPTPLNLACLR 694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDNEVVRGLVGQHG-IDINQRMGSDKNTVLHYAISKG-----DSFLVQKILAHTGVDVNC 748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     330 ADNODRTPMHLAAENGHAHVIEILADKFKASIFERTKDGSTLMHIASLNGHAECATMLFK 389
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENNLGQTPLHLAVEGGDPKIVSSLLK-AGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIV 807
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GHMELVNNLLANHARVDV---FDTEGRSALHLAAERGYLHVCDALLTNKAF----INS 721
                                                                                                                                                                                                                         ||:|| || : || || SSLTGPPDESATPSERATPASKADSDPK----DDSSSNGDKKDMDL-FPAPKPPSAGASI
                                                                                                                                                                                                                                                                                                  -DVRNAVLGNKEIKEEWLTTSGPVRDIADRIVASKGDLSEDQVEEILDIIFMNESEIAEG
                                                                                                                                                                                                                                                                                                                                 536 MEDYKGFTPLHFVAGGGSRDTFRVVRKNYEKCHDLATI----RAALMQDRSG-----
                                                                                                                                          Gaps
                                                                               8.5%; Score 368; DB 14; Length 1619;
llarity 21.9%; Pred. No. 7.9e-17;
Conservative 133; Mismatches 299; Indels 236;
                                                                                                                                                                                          SSIGGVPQEA-----QYDAAARAGGPRKFLYGPYTFSNG-QEIMDFEFDTPWP-
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Sequence 4122, Application US/10108260A

; Publication No. US20040005560A1

; GENERAL INFORMATION:
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777 QLLLELGANIDATDD 791
OTHER INFORMATION: sequence
                                                                               Query Match
Best Local Similarity
Matches 187; Conserv
           i US-10-369-978-4
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                                                                                                                                                                                                                                                                                                                                                                                                  374 GVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVGRA 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   434 PIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTPLHIAVEGGSMETVLAVLNQRGADVSV 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIHVAAFMGHLNIVLLLLQNGASPDVTNIRGETALHMAARAGOVEVVRCLL-RNGALVDA 471
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     166 TKGKVRLPALHIAARKDDTKSAALLLQNDHNADVQSKMMVNRT--TESGFTPLHIAAHYG
                                                                                                                               ------ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKAL----GEVENDEGDL
                                                                                                                                                                                    224 NVNVATLLINRGAAVDFT----ARNGITPLH-VASKRGNTNMVKLLLDRGGQIDAKTRD-
                                                                                                                                                                                                                                                                                                                                                  335 SVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPV----------ILK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               494 QNNDGVTPMLSAAKYGDIGVIKAL--GSAKPNI-------KGEDTVAKSLL--
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APPLICANT: Zuker, Charles S.

APPLICANT: Willingham, Aarron

APPLICANT: Willingham, Aarron

APPLICANT: Willingham, Aarron

APPLICANT: Willingham, Aarron

TITLE OF INVENTION: A ENKaryotic Mechanosensory Transduction Char

FILE REFERENCE: 02307E-097600US

CURRENT APPLICATION NUMBER: US/10/369,978

CURRENT PILING DATE: 2003-02-18

FRIOR PELING DATE: 1999-09-09

NUMBER OF SEQ ID NOS: 17

SOFTWARE: Patentin Ver. 2.1
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                                                                                                                                                                                                                                                                          216 MNESEIAEGISN---PLHADVDNNPVKGAKNVMTLMHLVYACDVDPRIV---KAL-GEVE 268
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APPLICANT: HELIX RESEARCH INSTITUTE
TITLE OF INVENTION: No. US20040005560Alel full length cDNA
FILE REPERBNCE: H1-A0106
CURRENT APPLICATION NUMBER: US/10/108,260A
CURRENT APPLICATION NUMBER: US/10/108,260A
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PALENTIN Ver. 2.1
SEQ ID NO 4122
LENGTH: 919
                                                                                                                                                                      8.5%; Score 364.5; DB 15;
24.0%; Pred. No. 6.1e-17;
tive 95; Mismatches 283;
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Matches 184; Conservative
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US-10-108-260A-4122
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                                         APPLICANT: Zuker, Charles S.
APPLICANT: Walker, Richard G.
APPLICANT: Walker, Richard G.
APPLICANT: Wallangham, Aarron
APPLICANT: The Regents of the University of California
TITLE OF INVENTION: A Eukaryotic Mechanosensory Transduction Channel
FILE REFERENCE: 02307E-097600US
CURRENT APPLICATION NUMBER: US/10/369,978
PRIOR PILLING DATE: 1009-02-18
PRIOR PILLING DATE: 1999-09-09
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OTHER INFORMATION: amino acid sequence derived from nompC
OTHER INFORMATION: sequence
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8.1%; Score 351; DB 14;
Best Local Similarity 21.1%; Pred. No. 1.4e-15;
Matches 196; Conservative 134; Mismatches 326;
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ORGANISM: Caenorhabditis elegans
US20030152991A1
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                                                                                                                                                                                                                                                                                   255 PLHIAAKKNOMDIATTLLEYGADA-NAVTRQGIASVHLAAQGGHVDMVSLLL--GRNANV 311
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                                                                                                                                                                                                                                                                                                                                                                                                      188 TPLHVAAKYGKLEVANLLLQKSASPDAAGK-----SGLTPLHVAA---HYDNQ 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                       558 RVVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFS 617
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             678 NFKTSATPTPLNLACLRGDNEVVRGLVGQHG-IDINQRMGSDKNTVLHYAISKGDSFLVQ 736
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          369 FLLQHS-AKVNAKTKNGYTPLHQAQQGHTHIINVLLQNNASPNELTVNGNTALGIA--- 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Lee, Kevin
APPLICANT: Dixon, Alistair
APPLICANT: Brookbank, Robert
APPLICANT: Pinnock, Robert
TITLE OF INVENTION: Identification and Use of Molecules Implicated in Pain
                                                                                                  ----AFMGHVNIV 70
                                                                                                                                                    383 SEFQD---LVNDPDYFGNTIAHYAVKOKNADLTLFNMLKASGADLNVRNVVGRAPIHVAS
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       Gaps
     86;
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     75; Mismatches 206; Indels
                                                                                                23 TPLHIACKKNRIKVMEL--LLKHGASIQAVTESGLTPIHVA----
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24.8%; Pred. No. 3.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/10/205,194
CURRENT FILING DATE: 5200-07-24
PRIOR APPLICATION NUMBER: GB 0118354.0
PRIOR FILING DATE: 2001-07-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 117, Application US/10205194; Publication No. US20030134301A1; GENERAL INFORMATION: APPLICANT: Warner-Lambert Company appLICANT: Lee, Kevin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Ankyrin isoform
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--RRLGYISVVDTL 436
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ORGANISM: Rattus norvegicus
     Matches 127; Conservative
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SOFTWARE: Patentin Ver. 2.1
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les 169; Conserve
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671 GÄSGVANILLKVIVLCVGPGPGPRIQGRGYWTRTRARVTVPWLQYQGYWARTRTRARA 730
                                                                                        31 RATGPGLQDQGYWARTRTRTKVTVPRLLGDHHARIDVFDEMGRTALHLAAFNGHLSLVHL 790
                                                                                                                                                                                                791 LLQ--HKAFVNSKSKTGEAPLHLAAQHGHVKVVNVLVQDHGAAL-EAITLDNQTALHFAA 847
                                                                                                                                                                                                                                                    728 SKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKA----GAVVNRLD 783
                                                                                                                                                 668 LAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKNTVLHYAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: HASEK, AMY W.
TITLE OF INVENTION: STRUCTURAL AND CYTOSKELETON-ASSOCIATED PROTEINS
FILE REFERENCE: PP-1007 USN
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APPLICANT: TANG. Y. Tom; WARREN, Bridget A.;
APPLICANT: HONCHELL, Cynthia D.; RICHARDSON, Thomas W.;
APPLICANT: ELLIOTT, Vicki S.; CHAWLA, Narinder K.;
APPLICANT: VUE, Henry: BATRA, Sajeev,
APPLICANT: GRIFFIN, Jennifer A.; BAUGHN, Mariah R.;
APPLICANT: EMERLING, Brooke M.; SANJANWALLA, Madhusudan M.;
APPLICANT: EMERLING, Brooke M.; SANJANWALLA, Madhusudan M.;
APPLICANT: HAFALIA, April J.A.; NGUYEN, Danniel B.;
APPLICANT: HAFALIA, Shanya D.; YAO, Monique G.;
APPLICANT: GEETAN, Kimberly J.; LUO, Wen;
APPLICANT: GEETEN, Kimberly J.; LUO, Wen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ξ.
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OTHER INFORMATION: Incyte ID No: 8013295CD1
                                                                                                                                                                                                                                                                                                                                                  784 DNGRSVLSSAIVPGRKEKGVLGIVNKLL 811
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PRIOR APPLICATION NUMBER: US 60/296,865
PRIOR FILING DATE: 2001-06-07
PRIOR FILING DATE: 2001-06-08
PRIOR APPLICATION NUMBER: US 60/296,878
PRIOR FILING DATE: 2001-06-08
PRIOR FILING DATE: 2001-06-15
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-21
PRIOR FILING DATE: 2001-06-29
PRIOR PLING DATE: 2001-06-303,410
PRIOR PLING DATE: 2001-06-309
PRIOR PLING DATE: 2001-06-309
PRIOR PLING DATE: 2001-07-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/10/479,764
CURRENT FILING DATE: 2003-12-04
PRIOR APPLICATION NUMBER: PCT/US02/17956
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PRIOR APPLICATION NUMBER: US 60/343,557
PRIOR FILING DATE: 2001-12-01
NUMBER OF SEQ ID NOS: 50
SOFTWARE: PERL PROGRAM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 22, Application US/10479764
Publication Nd. US20050027103A1
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ORGANISM: Homo sapiens
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Best Local Similarity
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                  244 VATLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL-----LDRGAK-IDA
                                                                    282 LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEE
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Publication No. US20040077044A1

GENERAL INFORMATION:

APPLICANT: YUE, Henry; DING, Li;

APPLICANT: Tal, Preeti G.; GRIFFIN, Jennifer A.;

APPLICANT: Tal, Preeti G.; GRIFFIN, Januifer A.;

APPLICANT: TRIBOULEY, Catherine M.; SWARNAKAR, Anita;

APPLICANT: TRIBOULEY, Catherine M.; SWARNAKAR, Anita;

APPLICANT: TRIBOULEY, Catherine M.; SWARNAKAR, Anita;

APPLICANT: TRIBOULEY, Natil BANDAN, Olga;

APPLICANT: TRIBOULEY, Natil BANDAN, Olga;

APPLICANT: TRIBOULEY, VICAL, SADHI, Amena R.;

APPLICANT: TALIOTY, VICAL, S.; XV, Yuming;

APPLICANT: LILIOTY, VICAL, S.; XV, Yuming;

APPLICANT: LILIOTY, VICAL, April J.A.;

APPLICANT: ARVIZU, Chandra S.; FORSYTHE, Ian J.;

APPLICANT: ARVIZU, Chandra S.; FORSYTHE, Ian J.;

TITLE OF INVENTION: KINASES AND PHOSPHATASES

FILE REFERENCE: PI-0311 USN

CURRENT FILING DATE: 2001-12-04

PRIOR APPLICATION NUMBER: US 60/254,034

PRIOR FILING DATE: 2000-12-06

PRIOR FILING DATE: 2000-12-06

PRIOR FILING DATE: 2000-12-07

PRIOR FILING DATE: 2000-12-07

PRIOR FILING DATE: 2000-12-07

PRIOR FILING DATE: 2000-12-07

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PRIOR FILING DATE: 2000-12-07
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POEAQYDAAARAGGPRKFLYGPYTF-SNGQEIMDFEFDTPWPDVRNAVLGNKE----- 176
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KV------TPLHFLVAQG--SVEQVRLLLAHEVDVDCQTASGYTPLLIAAQDQQP 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VILKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNV 429
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DVSVQNNDGVTPMLSAAKYGDIGVIKALGSAKPNIKGEDTVAKSLLMEDYKGFTPLHFVA 549
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 720;
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8.0%; Score 344; DB 15; 1
Best Local Similarity 21.9%; Pred. No. 1.2e-15;
Matches 178; Conservative 113; Mismatches 269;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No: 3566882CD1
US-10-433-794-20
PRIOR FILING DATE: 2000-12-14
PRIOR APPLICATION NUMBER: US 60/256,172
PRIOR FILING DATE: 2000-12-15
PRIOR PILING DATE: 2000-12-25
PRIOR APPLICATION NUMBER: US 60/257,416
PRIOR PILING DATE: 2001-01-10
PRIOR PILING DATE: 2001-01-10
PRIOR PILING DATE: 2001-01-15
PRIOR APPLICATION NUMBER: US 60/264,644
PRIOR FILING DATE: 2001-01-25
PRIOR PELING DATE: 2001-02-02
NUMBER OF SEQ ID NOS: 40
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                          LENGTH: 720
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714 RMGSDKNTVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLL
                                                                                                                                                                 US-10-182-243-56; Application US/10182243; Sequence 56, Application US/10182243; Publication No. US20040048310A1; GENERAL INFORMATION: APPLICANT: PLOWMAN, GREGORY D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-182-243-56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 56
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              ---TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLK 774
                                   610 AEQSGWTPLHLAVQRSTFLSVINLLEH-HANVHARNKVGWTPAHLAALKGNTAILKVLVE 668
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             297 CTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDG 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDPDY---FGNTIAHYAVKNKNADLTL 413
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Fatent No. US20020174446A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Identification of Genes Involved in
TITLE OF INVENTION: Alzheimer's Disease Using Drosophila Melanogaster
TITLE OF INVENTION: Alzheimer's Disease Using Drosophila Melanogaster
TITLE OF INVENTION: Alzheimer's Disease Using Drosophila Melanogaster
FILE REFERENCE: 4-31612 A
CURRENT PELICATION NUMBER: 60/236,893
FRIOR APPLICATION NUMBER: 60/236,893
FRIOR APPLICATION NUMBER: 60/236,893
FRIOR APPLICATION NUMBER: 60/298,309
FRIOR PILING DATE: 2000-09-29
FRIOR PILING DATE: 2001-06-14
NUMBER OF SEQ ID NOS: 53
SOFTWARE: FadtSEQ for Windows Version 4.0
SEQ ID NO 43
TYPE: PAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels 124; Gaps
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8.0%; Score 343; DB 9; L
Best Local Similarity 24.3%; Pred. No. 5.3e-15;
Matches 157;; Conservative 101; Mismatches 263;
                                                                                                        AGA---QLDVQDGVSCTPLQLALRSRKQGIMSFL 699
                                                                              775 AGAVVNRLD-DNGRSVLSSAIVPGRKEKGVLGIV 807
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US-09-964-899-43
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773
                                        457 ATTSG-YTPLHLSAREGHEDVAAFLLDH-GASLSITTKSGLTPLHVAAHYDNQKVALLLL 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           163 DFGLSKWMEQSTRMQY----IERSALRGMLSYIPPË-MFLESNKAPGPK---YDVYSFA- 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          214 ---IVIWELLTQXXPYSGFNAMIIIRVAAGMRPSLQPVSDQWPSEAQQMVDLMXRC--- 267
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         372 LKGVMDHVKNSSEFQDLVNDPDYFGNTIAHYAVKNKNADLTLFNMLKASGADLNVRNVVG 431
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DVGVS--MPTVSRGIYQPPIVQDSNLYSSIGGVPQEAQYDAAARAGGPRKFLYGPYTFSN 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GQEIMDFEFDT---PWPDVRNAVL------GNKEIKEEWLTTSGPVRDIADRIVAS 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    316 QPGEVNEDISQEL--MDSDSGNYLKRALQLSDRKNLVPRDE-------ELCIYENKV 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             312 DFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPVI 371
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APPLICANT: WANNING, GERARD
APPLICANT: WANNING, GERARD
APPLICANT: WANNING, GERARD
APPLICANT: WARTHEZ, KICHARD
APPLICANT: WARTHEZ, KICHARD
TITLE OF INVENTION: RICARDO
TITLE OF INVENTION: BYZYMES
FILE REFERENCE: 038602/1366
CURRENT APPLICATION NUMBER: US/10/182,243
CURRENT FILING DATE: 2003-07-07
PRIOR FILING DATE: 2003-07-07
PRIOR FILING DATE: 2001-01-25
NUMBER OF SEQ ID NOS: 84
SOFTWARE: PATENTIN VET. 2.1
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                                                                                                                                    774 KAGAVVNRLDDNGRSVLSSAIVPGRKEKGVLGIVNKLLDRGADIN 818
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721 ----TVLHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAG 776
                                                                                                                                             612 A-----NFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKE
                                                           664 AVKWLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHGIDINQRMGSDKN---
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                                                                                                                                                                                                                                                                                                                 Publication No. US20050027103A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: TANG, Y. Tom; WARREN, Bridget A.;
APPLICANT: TANG, Y. Tom; WARREN, Bridget A.;
APPLICANT: HONCHELL, Cynthia D.; RICHARDSON, Thomas W.;
APPLICANT: VUE, Henry; BATRA, Sajeev;
APPLICANT: YUE, Henry; BATRA, Sajeev;
APPLICANT: GNEFFIN, Jennifer A.; BAUGHN, Mariah R.;
APPLICANT: EMERLING, Bronher M.; BURRORD, Neil;
APPLICANT: KHAN, Farrah A.; LU, Dyung Anna M.;
APPLICANT: HAFALIA, April J.A.; NGUYEN, Danniel B.;
APPLICANT: ARG, Junming; LI, Joana K.;
APPLICANT: BERTARA, Shanya D.; YAO, Monique G.;
APPLICANT: LIEE, Enresine A.; ISON, Craig H.;
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                                                                                                                                                                                       777 AVVNRLD-DNGRSVLSSAIVPGRKEKGVLGIV 807
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US-10-479-764-1
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Publication No. US20050027103A1
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ORGANISM: Homo sapiens
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US-10-479-764-1
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                                                                                                                 HAAKNCTGDKLKLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGL 351
WLTTSG-PVRDIADRIVASKGDLSEDQVEBILDIIFMNESEIAEGISNPLHADVDNN---
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                         295 WMIWNGTPVRDSLSTLIPKE-----QEVLQLL-----VKAGAHVNSEDDRTS
                                                       ----PVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLH
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completed: February 26, 2005, 19:06:48 Search completed: For Job time : 147 secs

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Indels 207; Gaps

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                                                          February 26, 2005, 18:45:13 ; Search time 50 Seconds (without alignments) 1599:123 Million cell updates/sec
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4310
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5.1.6
Compugen Ltd.
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GenCore version
Copyright (c) 1993 - 2005
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30 225 5.2 616 2 T00894 31 224.5 5.2 627 2 E86190 32 221 5.1 662 2 E84725 33 220 5.1 107 2 T21280 34 218 5.1 984 2 A41996 35 214.5 5.0 991 2 T25412 37 214.5 5.0 851 2 T2258 39 212.5 4.9 968 2 D82654 41 210.5 4.9 968 2 A37867 42 210 4.9 2584 2 T24158 43 210 4.9 2703 1 A24420 44 210 4.9 2703 1 A24420 45 209 4.8 2555 2 A40043	RESULT 1 BASOLF 1 BASOLF 1 BASOLF 1 BASOLF 1 BASOLF 1 BASOLF 1 BARYIN 1, erythrocyte splice form 3 - human N.Alternate names: ankyrin 2.2, erythrocyte; ankyrin-R N.Contains: ankyrin 2.2, erythrocyte C,Species: Homo sapiens (man) C, Accession: B35049 B. Jaccession: B35049 B. Jaccession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Title: CDNA sequence for human erythrocyte ankyrin. A, Accession: B35049 A.Genetics: Preliminary A, Genetics: Preliminary A, Genetics: Preliminary A, Genetics: A, Genetics: B35049 A, Genetics: A, Genetics: B35049 A, Genetics: A, Genetics: B35049 A, Genetics: B35049	Query Match 9.1%; Score 391.5; DB 2; Best Local Similarity 26.0%; Pred. No. 1.2e-14; Matches 174; Conservative 100; Mismatches 246;

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GDKL-KLCMEKTKTDFIDTANFANOSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
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                                                                          homology <AN03>
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F;733-765/Domain:
F;766-798/Domain:
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ANSO41

ASSO49

ANSO41

N.Alternate names: annyrin 2., erythrocyte; ankyrin-R

N.Gontains: ankyrin 2.2, erythrocyte; ankyrin-R

N.Gontains: ankyrin 2.2, erythrocyte

C;Species: Homo sapiens (man)

C;Species: Homo sapiens (man)

C;Species: A3-041-1990 #sequence_revision 01-Oct-1992 #text_change 09-Jul-2004

C;Accession: A35049

R;Lambert, S.; Yu, H.; Prchal, J.T.; Lawler, J.; Ruff, P.; Speicher, D.; Cheung, M.C.; R

Proc. Natl. Acad. Sci. U.S.A. 87, 1730-1734, 1990

A;Title: cDNA sequence for human erythrocyte ankyrin.

A;Reference number: A35049; MUID:90175370; PMID:1689849

A;Accession: A35049

A;Acces
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                                   301 KTKNGLSPIHMAAQGDHLD--CVRLLLQYDAEIDDI-----TLD---HLTPLHVAAHCG 349
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                                                                                                                                                                                                                                               350 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL
                                                                                                                                                                                                                                                                                                                                                 LVNLGDFESENILGSPNAKFLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLP
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  ----GA----
                                                                                                        --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT
                                                                                                                                                                                                              GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK
                                                                                                                                                                                                                                                                                                                   NPLHHA--VEHLPPV---ILKGVMDHVKNSSEFQDLVNDPDYF----GNT-IAHYAVKNK
                                                                                                                                                                                                                                                                                                                                                                                                                         408 NADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVNSQDVNGDTP
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RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK-
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A;Molecule type: mRNA
*Kesidues: 1-1804 cBIR:
A;Cross-references: UNIPROT:Q61302; EMBL:X69063; NID:g311816; PIDN:CAA48801.1; PID:g311:
C;Superfamily: ankyrin; ankyrin repeat homology
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C;Species: Mus musculus (house mouse)
C;Date: 27-May-1994 #sequence_revision 03-Aug-1995 #text_change 09-Jul-2004
C;Accession: S37771
R;Birkenmeier, C.S.; White, R.A.; Peters, L.L.; Hall, E.J.; Lux, S.E.; Barker, J.E.
J; Biol. Chem. 268, 9533-9540, 1993
A;Title: Complex patterns of sequence variation and multiple 5' and 3' ends are found and A;Reference number: S37771; MUID:93252825; PMID:8486643
                                                                                                                                                     31;
                                                                                                                                                                                                                                  |:: :| |: :: | | |: 256 RLLLDRGAQIBTKTKDEL------TPLHCAARNGHVRISEILLDHGAPIQA 300
                                                                                                                                                                                                                                                                                                                              350 HHRVAKVLLDKGAKPNSRALN--GFTPLHIACKKNHVRVMELLLKTGASID--AVTESGL 405
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                                                                                                                                                                                                                                                                                                  --KNVMTLMHLVYACD-VDPRIVKALGEVENDEGDLGANAYNVLDSEGNLPLHHAAKNCT 298
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                                                                                                                                                                                                                                                                                                                                                                                                    299 GDKL-KLCMEKTKTDFIDTANFANQSPLHIITQKPDCSVLDIEEFTSRNLDFGLVDGDGK 357
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                                                                                                                                                       Gaps
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                                                                                                    Length 1881;
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                                                                                                 Query Match
9.1%; Score 390.5; DB 1; Length 1
Best Local Similarity 26.0%; Pred. No. 1.4e-14;
Matches 174; Conservative 100; Mismatches 246; Indels
                                                                                                                                                                                                     194 RIVASKGDLSEDQVEEILDIIFMNESEIAEGISNPLHADVDNNPVK--
F;828-1382/Domain: 62K #status predicted <DOM2>
F;828-1382/Region: spectrin binding
F;1383-1881/Domain: 55K #status predicted <DOM3>
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A;Residues: 2-7;X',9-17,X',19-20,'T',22-30;733-749,'A',751-753;828-833,'X',835-855,'X'
A;N367;1383-1427;1601-1630;1686-1698,'D',1700;1763-1772 <LUX>
A;Note: 845-Arg and 1392-Thr were also found
B;Hermann, J.; Barel, M.; Frade, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ribavis, L.H.; Bennett, V. J. Bennett, V. J. Biol. Chem. 265, 10589-10596, 1990
A;Title: Mapping the binding sites of human erythrocyte ankyrin for the anion exchanger A;Reference number: A35443; MUID:90285190; PMID:2141335
A;Accession: A35443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      membrane
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;Cross-referendes: UNIPROT:P16157; EMBL:X16609; NID:g28701; PIDN:CAA34610.1; PID:g2870;
                                                                                                                                                                                                                  C.Species: Homo'sapiens (man)
C.Species: Homo'sapiens (man)
C.Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 09-Jul-2004
C.Accession: S08275; A3319; FC2220; A35443
R;Lux, S.E.; John, K.M.; Bennett, V.
Nature 344, 36-42, 1990
A;Title: Analysis of cDNA for human erythrocyte ankyrin indicates a repeated structure
A;Reference number: S08275; MUID:90158830; PMID:2137557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Molecule type: protein
;Residues: 'X',5,'X',7-12;403-417,'X',419-422,'H',424,'LQ';797-800,'L',802-814;862-863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochem. Biophys. Res. Commun. 204, 453-460, 1994
A;Title: Human drythrocyte ankyrin, a cytoskeleton component, generates the p57
A;Reference number: PC2220; MUID:95071348; PMID:7526850
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Cross-references: GDB:118737; OMIM:182900

GRAP position: 8p11.2-8p11.2

Superfamily: ankyrin; ankyrin repeat homology

Superfamily: ankyrin; ankyrin repeat homology

Partial: Superfamily: ankyrin i, erythrocyte form 1 #status predicted <MAT1>

12-1881/Product: ankyrin 1, erythrocyte form 1 #status predicted <MAT2>

12-1871/Domain: 89K #status predicted <DOM1>

12-827/Domain: 89K #status predicted <DOM1>

12-827/Region: anion exchange protein binding

12-827/Region: anion exchange protein binding

14-76/Domain: ankyrin repeat homology <AN01>
                                                                                                                                                                         ankyrin 1, erythrocyte splice form 1 - human
NyAlternate names: ankyrin 2.1, erythrocyte; ankyrin-R
NiContains: ankyrin 2.2
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A,Molecule type: pro
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                                                                                                                                                                                                                                    A;Status: preliminary; translated from GB/EMBL/DDBJ
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<AN08>
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F;119-167/Domain: ankyrin repeat homology <AN04>
F;168-200/Domain: ankyrin repeat homology <AN05>
F;201-233/Domain: ankyrin repeat homology <AN05>
F;234-266/Domain: ankyrin repeat homology <AN07>
F;267-299/Domain: ankyrin repeat homology <AN07>
                                                                                                                                                                                                                                                                                                  A;Gene: Ank-1
C;Superfamily: ankyrin; ankyrin repeat homology
C;Keywords: alternative splicing
F;40-72/Domain: ankyrin repeat homology <AN01>
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F;234-266/Domain: a
F;267-299/Domain: a
F;300-332/Domain: a
F;333-365/Domain: a
F;366-398/Domain: a
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                                                                                                                                                                                                                                                                                                                                                                       Length 1848;
                                                                                                                                                                                                                                                                                                                                                                       n 8.9%; Score 382.5; DB 2;
Similarity 26.2%; Pred. No. 4e-14;
80; Conservative 98; Mismatches 259;
                                                                                                                                                                <AN11>
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                                           4-146/Domain: ankyrin repeat homology <AN03>
ywords: alternative splicing
-80/Domain: ankyrin repeat homology <AN01>
-113/Domain: ankyrin repeat homology <AN02>
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                                                         147-175/Domain: ankyrin repeat
176-208/Domain: ankyrin repeat
                                                                                                    242-274/Domain: ankyrin repeat
275-307/Domain: ankyrin repeat
2308-340/Domain: ankyrin repeat
341-373/Domain: ankyrin repeat
374-406/Domain: ankyrin repeat
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                                                                                      209-241/Domain: ankyrin repeat
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704-736/Domain: ankyrin repeat
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539-571/Domain:
572-604/Domain:
                                                                                                                                                                              407-439/Domain:
                                                                                                                                                                                                           473-505/Domain:
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Best Local Sim:
Matches 180;
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Mamm. Genome 3, 281-285, 1992
A;Title: Murine erythrocyte ankyrin cDNA: Highly conserved regions of the regulatory dom
A;Reference number: I49502; MUID:92345717; PMID:1386265
                                                                                                                                                                                                                                                                                                                                                                         PID:
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LQQGHENVV-AHLINYGTKG-KVRLPALHIAARND-DTRTAAVL--LQNDPNP-----D 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANQ---SPLHIITQKPDCSVL 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       251
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A;Residues: 1-1862 <RES>
A;Cross-references: UNIPROT:Q02357; GB:M84756; NID:g191939; PIDN:AAA37236.1;
C,Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 09-Jul-2004
C;Accession: 149502
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ankyrin 3, splice form 3 - mouse
ankyrin 5, splice form 3 - mouse
c;Species: Mus musculus (house mouse)
c;Species: Mus musculus (house mouse)
c;Accession: T42715
E;Accession: T42715
J. Cell Biol. 130
J. Cell Biol. 130
J. Cell Biol. 130
J. Spittle: Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene the repeat domain.
A;Title: Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene the repeat domain.
A;Reference number: Z22237; MUID:95340633; PMID:7615634
A;Reference number: Z22237; MUID:95340633; PMID:7615634
A;Residues: preliminary; translated from GB/EMBL/DDBJ
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A;Molecule type: mRNA
A;Molecule type: MRNA
A;Molecule type: MRNA
A;Molecule type: MRNA
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A;Residues: 1-1940 cPET>
A;Cross-references: UNIPROT: G61307; EMBL:L40632; NID:g710548; PID:g710549; PIDM
A;Experimental source: strain C57BL/6J; kidney
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389 IACK-KNR-IRVMELLLKHGASIQAVTESGLTPIHVAAFMGHVNIVSQLMHGASPNTTN 446
                                                                                                                                                                                                                                                                                                                                    619 ARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEAVKMLAKSAKPSDLN 678
                                                                                                                                                                                                                                                                                                                                                                                                                           FKTSATPTPLNIACLRGDNEVVRGLVGQH-GIDINQRMGSDKNTVLHYAISKGDSFLVQK 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AVTROGIASVHLAAQEGHVDMVSLLLSRNANVNLSNKSGL---TPLHLA-AQEDRVNVAE 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      233 VATLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL------LDRGAK-IDA 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  738 ILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRLDDNGRSVLSSAIVPG 797
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                                                                                                                                                                                                                                                                      VNGDTPLHIAVEGGSMETVLAVLNORGADVSVQNNDGVTPMLSAAKYGDIGVIKAL--GS
                                                                                            447 VRGETALHMAARSGQAE-VVRYLVQDGAQVBAKAKDDQTPLHISARLGKADIVQQLLQQG
                                                                                                                                                       AKPNI -------KGEDTVA-----KSLLMEDYKGFTPLHFVAGGGSRDTFR
                                                                                                                                                                                              506 ASPNAATTSGYTPLHLAAREGHEDVAAFLLDHGASLSITTKKGFTPLHVAAKYGKLEV--
                                                                                                                                                                                                                                               559 VVRKNYEKCHDLATIRAALMQDRSGGELVNLGDFESENILGSPNAKFLQHIQSANFGFSP
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; Pred. No. 7.5e-14;
98; Mismatches 275; Indels 133;
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C;Superfamily: ankyrin; ankyrin repeat homology
C;Keywords: alternative splicing
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Best Local Similarity 25.7%;
Matches 175; Conservative 9
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A;Molecule type: mRNA
A;Residues: 1-1765 <PET>
A;Residues: 1-1765 <PET>
A;Cross-referendes: UNIPROT:Q61307; EMBL:L40632; NID:g710548; PID:g710551; PIDN:AAB01605
A;Experimental #ource: strain C57BL/6J; kidney
C;Genetics:
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--HSPAWN-GYTPLHIAAKQNQIEVARSLLQY-GGSANAESVQGVTPLHLAAQEGHTEM 646
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                                                                                                       489 GASPNLATTAGHTPLHTAAREGHVDTALLEKEASQACMTKKGFTPLHVAAKYGK---V 545
                                                                                                                                                   558 RVVRKOYEKCHD-----GSPNAK 604
                                                                                                                                                                              605 FLQHIQSANFGFSPARRGIVSSNHNVMKDILNFVGDSLHLPSERGYNAMQVAALFGDKEA 664
                                                                                                                                                                                                                                                                                                                                  665 VKMLAKSAKPSDLNFKTSATPTPLNLACLRGDNEVVRGLVGQHG--IDINQRMGSDKNTV 722
                                                                                                                                                                                                                                                                                                                                                                                                                         LHYAISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLKAGAVVNRL 782
                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
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GiSpecies: Mus musculus (house mouse)
CiDate: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
                                                                SAKPNI -----YKGFTPLHFVAGGGSRDTF
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A;Reference number: 222237; MUID:95340633; PMID:7615634
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Status: preliminary; translated from GB/EMBL/DDBJ;
Molecule type: mRNA;
Residues: 1-1765 <PET>
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A; Map position: 10
A; Introns: 1587/1
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A;Cross-references: UNIPROT:061307; EMBL:L40632; NID:g710548; PID:g710552; PIDN:AAB01607
A;Experimental source: strain C57BL/6J; kidney
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C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
C;Accession: T42716
R;Peters, L.L.; John, K.M.; Lu, F.M.; Eicher, E.M.; Higgins, A.; Yialamas, M.;
C;ell Biol. 130, 313-330, 1995
A;Title: Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene the repeat domain.
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233 VATLLLINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL------LDRGAK-IDA
                                                             LDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDTANFANGSPLHIITQKPDCSVLDIEE
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A;Accession: T42716
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Pred. No. 7.6e-14;
3; Mismatches 275;
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C;Superfamily: ankyrin; ankyrin repeat homology
C;Keywords: alternative splicing
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A; Residues: 1-1961 <PET>
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A;Recession: T42713
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A;Residues: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-1943 <PET>
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CjSpecies: Mus wisculus (house mouse)
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CjAccession: T42713
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Fig. 130, 130, 131-330, 1995
J. Cell Biol. 130, 213-330, 1995
A;Title: Ank3 (epithelial ankyrin), a widely distributed new member of the ankyrin gene
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A,Residues: 1-4377 <KOR>
A,Cross-references: UNIPROT:Q12955; GB:U13616; NID:g608024; PIDN:AAA64834.1; PID:g608025
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C,Superfamily: unassigned ankyrin repeat proteins; ankyrin repeat homology, EGF homology
C,Superfamily: unassigned ankyrin repeat proteins; ankyrin repeat homology cannot by 73-105/Domain: ankyrin repeat homology cannot by 8.105-138/Domain: ankyrin repeat homology cannot by 8.105-138/Domain: ankyrin repeat homology cannot by 8.139-171/Domain: ankyrin repeat homology cannot by 8.122-200/Domain: ankyrin repeat homology cannot by 8.122-200/Domain: ankyrin repeat homology cannot be 8.201-233/Domain: ankyrin b
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R;Kordeli, E.; Lambert, S.; Bennett, V.
J. Biol. Chem. 270, 2352-2359, 1995
A;Title: Ankyrin-G. A new ankyrin gene with neural-specific isoforms localized a A;Reference number: A55575; MUID:95138209; PMID:7836469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          336 LLQHNVPVDDVTNDYLTALHVAAHCGHYKVAKVLLD--KKASPNAKALN-----GFTPLH 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  618
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               -----ADVDNNPVKGAKNVMTLMHLVYACDVDPRIVKALGEVENDEGDLGANAYNV 281
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N;Alternate names: ankyrin G
C;Species: Homo sapiens (man)
C;Date: 03-Mar-1995 #sequence_revision 03-Mar-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VATLILINRAAAVDFT----ARNDITPLH-VASKRGNANMVKLL----LDRGAK-IDA
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A,Cross-references: GDB:424503; OMIM:600465
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C;Species: Homo sapiens (man)
C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jul-2004
C;Accession: T42691
Bibloccker, H.; Boecher, M.; Brandt, P.; Mewes, H.W.; Gassenhuber, J.; Wiemann, submitted to the Protein Sequence Database, November 1999
A;Reference number: Z22230
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A;Experimental source: adult testis; clone DKFZp434D2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein DKFZp434D2328.1 - human (fragment)
                                                                                                                                                              87; Mismatches 262;
                                                                                                                  DB 2;
                                                                                                                  Score 368.5; DB 2
Pred. No. 9.2e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             335 SVLDIEEFTSRNLDFGLVDGDGKNPLHHAVEHLPPV-
F;694-726/Domain: ankyrin repeat homology <AN20> F;727-759/Domain: ankyrin repeat homology <AN21> F;760-792/Domain: ankyrin repeat homology <AN22> F;793-825/Domain: ankyrin repeat homology <AN23>
                                                                                                             8.5%;
                                                                                                                                                              Matches 178; Conservative
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Best Local Similarity
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A;Molecule type: mRNA
A;Residues: 1-791 <AAA>
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A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Cross.tererences: UNIPROT:Q01484; EMBL:226634; NID:g406287; PIDN:CAA81387.1; PID:g4062
B;Cto, E.; Kunimoto, M.; McLaughlin, T.; Bennett, V.
Cell Biol. 114, 241-253, 1991
A;Title: Isolation and characterization of CDNAs encoding human brain ankyrins reveal a A;Reference number: A39643; MUID:91302466; PMID:1830053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: mRNA
A; Residues: 1-1443,3565-3924 <OTT>
A; Residues: 1-1443,3565-3924 <OTT>
A; Cross-references: EMBL; X56958
A; Cross-references: EMBL; X5695
Genomics 10, 858-866, 1991
A; Title: Isolation and chromosomal localization of a novel nonerythroid ankyrin gene.
A; Reference number: A40334; MUID: 92009921; PMID: 1833308
            nkyrin 2, neuronal long splice form – human
Alternate names: ankyrin B, 440K splice form, ankyrin-B; brain ankyrin; non-erythroid
Contains: ankyrin 2, short form
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A;Accession: A49462
A;Status: preliminary; nucleic acid sequence not shown
A;Molecule type: mRNA
A;Residues: 1-3924 <RES>
C;Genetics: A;Cross-references: EMBL:226634; NID:9406287; PIDN:CAA81387.1; PID:9406288
C;Genetics: A;Gene: GDB:ANK2
A;Gross-references: GDB:127607; OMIM:106410
                                                                                          Species: Homo sapiens (man)
Date: 06-Jan-1995 #sequence revision 06-Jan-1995 #text change 09-Jul-2004
Accession: S37431; A39643; B39643; A40334; A49462; S14533; S14569
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A,Residues: 463-474, PE', 477-495 <TSE>
A,Cross-references: GB:M37123; NID:g178647; PIDN:AAA62828.1; PID:g178648
R,Chan, W.; Kordell, E.; Bennett, V.
J. Cell Biol. 123, 1463-1473, 1993
A,Title: 440-kD ankyrinB: gtructure of the major developmentally regulated
                                                                                                                                                                                    Data Library, September 1993
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Keywords: alternative splicing
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162-190/Domain: ankyrin repeat homology
191-223/Domain: ankyrin repeat homology
;232-264/Domain: ankyrin repeat homology
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A;Rolecule type: mRNA
A;Residues: 1-2077 <OTI>A;Cross-references: GB:X56957
A;Accession: R196**
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C/Superfamily: ankyzin; ank
C/Seywords: alternative spl
F/2-3924/Product: ankyzin sel
F/2-1443,358-3924/Product:
F/2-128/Domain: ankyzin rep
F/129-161/Domain: ankyzin rep
F/162-190/Domain: ankyzin r
F/191-223/Domain: ankyzin r
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         alpha-latrotoxin precursor - black widow spider (Species: Latrodectus mactans tredecimguttatus (black widow spider) (Species: Latrodectus mactans tredecimguttatus (black widow spider) (Species: Latrodectus mactans tredecimguttatus (black change 16-Aug-2004 (Spacession: S11827, UN0313 (Speciession: S11827, UN0313 (Speciession: S11827, UN0313) (Speciession: S11827, UN0313) (Speciession: S11827, UN0313) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: S11827) (Speciession: 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---TLMHLVYACDVDPRIVKALGEVENDEGD 273
                                                                                                                                                                                                                                                   LGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTDFIDT--ANFANQSPLHIITQK 331
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                                                                                                                                                                                         -----GRFTRSQTLIQNGGEIDCVDKDGNTPLHVAARYGHELLINTLITSGADTAKC
                                                                                                                                                                                                                                                                                                                                                                                                                                          -----DHVKNSSEPQDLVNDPDYFGNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GIHSMFPLHLAALNAHSDCCRKLLSSGQKYSIVSLFSNEHVL-SAGFE--IDTPDKFGRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1AHYAVKNIKNADLTLFNMLKASGADLNVRNVVGRAPIHVASSNGKANAVSGLVSCGIDVN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTALHRGIMTGHEECVQMLLE-QEVSILCKDSRGRTPLHYAAARGHATWLSELLQMALSE
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                                                                                                                                                                                                                                                                                                                                          PDCSVLDIEEFT-SRNL----DFGLVDGDGKNPLHHAVEHLPPVILKGVM-----
                                                                                                                   Gaps
                                                                 Query Match
8.0%; Score 345; DB 2; Length 791;
Best Local Similarity 23.0%; Pred. No. 1.7e-12;
Matches 174; Conservative 110; Mismatches 275; Indels 196;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SQDVNGDTPLHIA------VEGGSMET-----
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                                                                                                                                                          228 PLHADVDNNPVKGAKNVM--
                   A; Note: DKFZp434D2328.1
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A. Molecule type: protein
A. Residues: 21-33, X', 35-40, XY, 43-50,82-90, XY, 92-99,107-113,114-126,146-151,171-178;1
A. Residues: 21-33, YX, 35-40, YX, 43-50,82-90, YX, 92-99,107-113,114-126,146-151,171-178;1
A. Pestidues: 21-33, YX, 35-40, YX, 43-50,82-90, YX, 1067-1075;1080-1084;1087-1096;1183-1
A. Note: the sequence of the amino terminal peptide has been corrected with tryptic pept C; Superfamily: ankyrin repeat homology. BGF homology
C; Keywords: neurotoxin, venom
F;1-20/Domain: propeptide #status predicted <PRO>
F;21-401/Product: alpha-latrotoxin #status experimental <MAT>
F;25-557/Domain: ankyrin repeat homology <AN7>
F;862-894/Domain: ankyrin repeat homology <AN3>
                                                                                                                                               venom neurotoxin.
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Query Match

8.0%; Score 344; DB 2; Length 1401;
Best Local Similarity 22.4%; Pred. No. 4.9e-12;
Matches 138; Conservative 97; Mismatches 207; Indels 174;
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probable ankyrin - syphilis spirochete C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)

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fruit fly (Drosophila melanogaster)
                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                           A; Residues: 1-1549 < DUB>
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C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 09-Jul-2004
C;Accession: H71274
R;Fraser, C.M.; Norris, S.J.; Weinstock, G.M.; White, O.; Sutton, G.G.; Dodson, R.; Gwin reon, J.; Knalak, H.; Richardson, D.; Howell, J.K.; Chidambaram, M.; Utterback, T.; McDc they, L.; Weidman, J.; Smith, H.O.; Venter, J.C.
Science 281, 375-388, 1998
A;Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete.
A;Reference number: A71250; MUID:98332770; PMID:965876
A;Accession: H71274
A;Reference number: A71250; MUID:98332770; PMID:965876
A;Residues: 1-934 <COL>
A;Residues: 1-934 <COL>
A;Residues: 1-934 <COL>
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A;Residues: 1-934 <COL>
A;Residues: 1-934 <COL>
A;Residues: 1-934 <COL>
A;Resperimental source: strain Nichols
C;Genetics: A;Genetics: A;Genetics: TROB35
C;Superfamily: syphilis spirochete probable ankyrin; ankyrin repeat homology
F;281-313/Domain: ankyrin repeat homology <AN22>
                                                                                                                                                                                                                                                                                                                                                        31;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        824 IKKDRSDLCHELLA-LGADLFIANNVGESPALLVLSKN----TSILKTLVGFAVNKTDS 877
                                                                                                                                                                                                                                                                                                                                                                                    SNPLHADVDNNPVKGA-----KNVM-----TLMHLVYACDVDPRIVKALGEVENDE 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                   272 GDLGANAYNVLDSEGNLPLHHAAKNCTGDKLKLCMEKTKTD------FIDTANFANQSP 324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --DFGLVDGD-- 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GKNPLHHAVEHLPPVILKGVMDHVKNSSEFQDLVNDP-----DYFGNTIAHYAVKNKNA 409
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             556 TFRVVRKNYEKCHDLATIRAAL-MODRSG----GELVNLGDFESENILGSPNAKFLQHIQ 610
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              727 ISKGDSFLVQKILAHTGVDVNCENNLGQTPLHLAVEGGDPKIVSSLLK--AGAVVNRLDD 784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --KALGSAKPNIKGEDTVAKSLL-MEDYKGFTPLHFVAGGGSRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               336 LDAGASV-AIKDDYGETPLHVAA-----RLGMDRAFVERLVGAGADISERNKKGETP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DLTLFNMLKASGADLNVRNVVGRAPIHVA--SSNGKANAVSGLVSCGIDVNSQDVNGDTP
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                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                     Indels 166;
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 7.9%; Score 342; DB 1; Length 934; Best Local Similarity 26.5%; Pred. No. 3.3e-12; Matches 177; Conservative 85; Mismatches 241; Indels 1
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878 AGESILHYA 886
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A;Cross-references: UNIPROT:Q24241; EMBL:L35601; NID:g557083; PID:g557084; PIDN:AAC37206
C;Genetics:
A;Cross-references: FlyBase:FBgn0011747
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                                                                                                                                                                                                                                                                                                        of alpha-spectrin in
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C;Species: Drosophila melanogaster
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 09-Jul-2004
C;Accession: T11940
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Proc. Natl. Acad. Sci. U.S.A. 91, 10285-10289, 1994
Arritle: Ankyrin and beta-spectrin accumulate independently
A, Reference number: Z17820; MUID:95024098; PMID:7937942
A, A, Accession: T13940
A, Status: preliminary; translated from GB/EMBL/DDBJ
A, Molecule rype: DNA
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Search completed: February 26, 2005, 18:54:50 Job time : 55 secs